



5180 User's Manual
GEK-00027C

FCC COMPLIANCE STATEMENT (USA)

This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC warning: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note the following:

- The use of a non-shielded interface cable with the referenced device is prohibited.
- The length of the parallel interface cable must be 3 meters (10 feet) or less.
- The length of the serial interface cable must be 15 meters (50 feet) or less.
- The length of the power cord must be 3 meters (10 feet) or less.

COMPLIANCE STATEMENT (CANADA)

This digital apparatus is in conformity with standard NMB-003 of Canada.

Cet appareil numérique est conforme à la norme NMB-003 du Canada.

COMPLIANCE STATEMENT (GERMANY)

Bescheinigung des Herstellers/Importeurs

Hermit wird bescheinigt, daß der/die/das

Maschinenlärminformationsverordnung 3. GSGV, 18.01.1991: Der höchste

Schalldruckpegel beträgt 70 dB (A) oder weniger gemäß EN27779-1991.

COMPLIANCE STATEMENT (EUROPE)

Warning

This product meets the interference requirements of EN55022. In a domestic environment, this product may cause radio interference in which case, the user may be required to take adequate measures.

Optional Interface Kits

If the Ethernet interface board, Token ring interface board, IBM TX/CX interface board, or any variation of the Legacy parallel board is installed in either or both of the interface expansion slots, this equipment may produce additional radio frequency interference in compliance with FCC Class A emissions.

Si des panneaux d'interface d'Ethernet, panneau de token ring, panneau d'IBM TX/CX, ou n'importe quelle variation des panneaux de parallèle de legs est installé dans l'un ou l'autre ou tous les deux emplacements d'interface, ce matériel peut produire l'interférence F.R. supplémentaire conformément ICES-003 aux émissions de la classe A.

Falls Ethernet, Token ring, IBM TX/CX, Schnittstellenkarten oder eine variation der herkoemmlichen Parallelschnittstellenkarten (interface) in einer oder beiden steckbaren Erweiterungsschnittstellen installiert sind, koennen moeglicherweise zusaetzliche Funkfrequenzstoerungen erzeugt werden, unter Einhaltung der EN55022 Klasse A Stoerstrahlungswerte.

ENERGY STAR

As an ENERGY STAR ® Partner, GENICOM has determined that this product meets the ENERGY STAR ® guidelines for energy efficiency. The International ENERGY STAR ® Office Equipment Program is an international program that promotes energy saving through the use of computers and other office equipment. The program backs the development and dissemination of products with functions that effectively reduce energy consumption. It is an open system in which business proprietors can participate voluntarily. The targeted products are office equipment such as computers, displays, printers, facsimiles, and copiers. Their standards and logos are uniform among participating nations.

INTERNATIONAL COMPLIANCE



EN55022-1998 Emissions Series
EN61000-3-2:1995 Power line harmonics
EN61000-3-3:1995 Power line flicker
EN55024:1998 Immunity Characteristics
EN61000-4-2:1995 E.S.D.
EN61000-4-3:1995 Radiated Susceptibility
EN61000-4-4:1995 E.F.T.
EN61000-4-5:1995 Surge
EN61000-4-6:1996 R.F. Common mode
EN61000-4-11:1994 Voltage dips and interruptions

Trademark Acknowledgements

GENICOM is a registered trademark of GENICOM L.L.C. The following companies own the other trademarks used in this manual:

GENICOM L.L.C.: Centronics;

International Business Machines Corporation: IBM;

Epson Corporation: Epson;

Table of Contents

Page

CHAPTER 1. INTRODUCTION	1
REFERENCE USAGE:	2
ORGANIZATION OF THIS MANUAL	2
Chapter 2. GETTING STARTED	5
PREPARING THE PRINTER FOR OPERATION	5
REMOVING THE SHIPPING BLOCKS AND HARDWARE	6
5180 (55 Dba Cabinet Model)	7
5180 (52 Dba Cabinet Model)	10
CONNECTING THE POWER CORD	11
CONNECTING THE INTERFACE CABLE	12
I/O Interface Card Options available	12
DESCRIPTION OF THE CONTROL PANEL	13
Beeper	14
Display	15
Keys	15
OPERATION OF THE CONTROL PANEL	16
Data Entry	17
INSTALLING THE PAPER HANDLING SYSTEM	18
(55 DBA CABINET MODEL)	18
Loading Paper	19
Tension Fingers Lateral Adjustment	23
HORIZONTAL POSITIONING OF THE PAPER	23
INSTALLING OR REPLACING THE RIBBON CARTRIDGE	25
SETTING THE PRINT GAP	26
PAPER TENSION ADJUSTMENT	27
POWER-ON SEQUENCE	27
TEST PATTERN PRINTING	27
CHAPTER 3. OPERATING THE PRINTER	29
PRINTER OPERATIONAL MODES	29
Online	29
Offline	29
Fault	29
Menu	29
Status Display	29
MAIN MENU	30
Operator Menu	30
Setup Menu	30
Maintenance Menu	30
Menu Control	31
SETTING UP A FORMAT	31
Active Format	31
Setting up the Active Format	32
Form Length	32
Top Print Ref.	32
LOW PAPER PRINTING	33
Low Paper	33
Replenishing Paper Supply	34
SETTING TOP OF FORM	34
PAPER TEAR-OFF FEATURE	35
LOCAL AUTO VIEW FEATURE	36

Table of Contents

Page

CHAPTER 3. OPERATING THE PRINTER (CONTINUED)

Viewing	36
Retracting.....	36
THE INTERLOCK CIRCUIT	37
Print Module Access Panel AC Interlock Swith.....	37
Top Cover Interlock Switch.....	37
INITIALIZING THE PRINTER	38
When to Initialize	38
USING THE KEYPAD TO INITIALIZE	38
Control Panel Initialization	39
USING THE MENU CONTROL MENU	40

CHAPTER 4. USING THE OPERATOR MENU 41

NEW RIBBON	41
SHOW.....	41
Software IDs.....	42
Sample Status Page.....	42
Sample Format Page.....	45
Sample Code Page	47
Sample Font Page.....	47
TEST PATTERN.....	49
DISCARD JOB	49

CHAPTER 5. USING THE SET UP MENU 50

FORMAT.....	50
Modify Format	51
Format Name	51
Font Style	52
Code Page/Country	52
Code Page.....	53
Country.....	53
CPI.....	54
LPI	54
Form Length.....	55
Left Margin	56
Right Margin.....	57
Top Print Ref.....	58
Left Print Ref	59
Horiz Expansion.....	60
Vert Expansion	61
VertExp Options	62
Print Modifiers	63
Print Options	64
Print Control	65
Define LF.....	65
Define CR.....	65
Define FF.....	66
Define HT	66
VertMove.....	66
AutoWrap	67
FF @ TOF	67
GENPTROPTS	68
Slew Rate	68
Save Format	69
SELECT I/F	70

Table of Contents

Page

CHAPTER 5. USING THE SET UP MENU (CONTINUED)

I/F SETTINGS	70
<i>MultiSource</i>	71
<i>Parallel Setup</i>	72
<i>Serial</i>	73
Serial Type	73
Serial Setup	74
Protocol.....	74
XON/XOFF	75
CD(DTR)	75
CA(RTS).....	76
SCA(SRTS)	76
ETX/ACK.....	77
Inhibit Xmit	77
Lead Polarity.....	78
Data Bits	78
Parity.....	79
Stop Bits	80
Baud Rate	80
High Trip Pt%.....	81
<i>Expansion1/Expansion2</i>	82
Legacy Parallel.....	82
Centronics.....	83
DP(Short).....	83
DP(Long).....	84
I/F Straps	84
Token Ring.....	85
Coax	85
Twinax	86
TCP/IP	87
Netware	88
<i>IBM Host Status</i>	89
SELECT FILTER	90
FILTER SETTINGS	92
<i>IGP</i>	92
BC Density.....	92
Control Chars.....	93
Language.....	93
IGP Terminator	93
Quiet Mode	94
Delete Logos	94
Default OCR-B	94
Vertical DPI	95
Slashed Zero.....	95
Clip Text	95
Ignore Chr Mode.....	96
Ignore Char	96
Form Length=0	97
Ignore Term.....	97
<i>QMS</i>	98
BC Density.....	98
Control Chars.....	98
Language.....	99
Code V	99
Free Format.....	99
Ignore Mode.....	100
Slashed Zero.....	100

Table of Contents

Page

CHAPTER 5. USING THE SET UP MENU (CONTINUED)

PY Terminator	100
PN Terminator	101
Vertical DPI	101
LPI Grid	101
Version	102
Magnum Spaces	102
Ignore Chr Mode	102
Ignore Char	103
<i>IPDS</i>	<i>103</i>
IPDS BC Stagger	103
IPDS BC Density	104
IPDS GR Density	104
IPDS Im Density	104
IPDS Text	105
IPDS Dens Ovr	105
<i>IBM Format</i>	<i>105</i>
Code Page	106
Code Pg Override	106
Draft = High Speed	106
LPI	107
LPI Override	107
CPI	107
CPI Override	108
MPP	108
MPP Override	109
MPL	109
MPL Override	110
SCS Text	110
Override Text	110
Override All	111
Hex Print	111
Hex 1	113
Hex 2	113
Hex Term	114
DCF 1	114
DCF 2	115
DCF Term	115
ASCII Driver	116
Print Direction	116
Coax Compat	116
Case	117
LOC Copy FF	117
FF Before LC	117
Interv Req	118
Irq Err TO	118
Irq Bsy TO	119
CR at MPP+1	119
NL at MPP+1	120
FF Data	120
FF EndBuff	121
Null Sup	121
FF Pos	121
Auto Funct	122
LAST LF/FF	122
Supp CCode	122
VCS	123
Comm	123

Table of Contents

Page

CHAPTER 5. USING THE SET UP MENU (CONTINUED)

SELECT EMUL.....	124
EMUL SETTINGS.....	125
ANSI (4800)	125
ANSI (4410)	125
FX286E	126
Proprinter	126
P 300/600.....	127
DEC LG	127
Pseries.....	128
DEC PPL3	128
ENGINE OPTIONS	129
Direction	129
EngineOff Delay	129
Print Intensity	130
Tier Select.....	131
TEAROFF OPTIONS	132
Retract.....	133
HORIZ TAB	133
VERTICAL FORMAT.....	134
Vertical Tabs.....	135
Emulation VFU	135
DISPLAY LAN.....	136

CHAPTER 6. USING THE MAINTENANCE MENU 137

RESET TO DEFLT.....	138
ALIGNMENT	139
Patterns.....	139
AdjustAmplitude.....	141
POWER ON TIME	142
PRINT TIME.....	142
RIBBONMONITOR	143
HEADSERVICE	144
Dot Counts	144
Print Chart.....	145
Actuator Status.....	145
UPGRADE FLASH	146

CHAPTER 7. OPERATION AND MAINTENANCE..... 147

INTRODUCTION	147
OPERATOR CLEANING PROCEDURES	147
OPERATOR TROUBLESHOOTING.....	148
Soft Faults.....	150
Miscellaneous Non-Fault Messages	153
Hard Faults.....	154
Electrical Problems	156
Mechanical Problems	157
Self-Test Error Messages.....	158
SERIAL INTERFACE ERRORS.....	159
PRINT MODULE REPLACEMENT	159
Replacement Procedure.....	160
Resetting Print Head Counters	162

Table of Contents	Page
APPENDIX A. UNPACKING INSTRUCTIONS	163
UNPACKING (5180 52 DBA MODEL)	163
UNPACKING (5180 55 DBA MODEL)	165
<i>Repacking</i>	168
APPENDIX B. PAPER SPECIFICATIONS	169
RECOMMENDED PAPER WEIGHTS	169
APPENDIX C. CONSIDERATIONS FOR OPERATION	171
APPENDIX D. PARTS, ACCESSORIES, ...	172
CONSUMABLES AND OPTIONS	172
APPENDIX E. FONT PRINT SAMPLES	173
APPENDIX F. FLASH UPGRADE INSTRUCTIONS	176
<i>On Board Software to External Flash SIMM</i>	177
APPENDIX G. DESCRIPTION OF STRAPPING OPTIONS.....	178
GENERAL PRINTER OPTIONS DEFINITIONS.....	179
LEGACY PARALLEL HARDWARE STRAP DEFINITIONS	181
LEGACY PARALLEL SOFTWARE STRAP DEFINITIONS	183
EMULATION OPTION DESCRIPTIONS	184
APPENDIX H. INTERFACE EMULATION COMPATIBILITY	188
PRINTER INTERFACES	188
<i>Parallel and Serial Interfaces</i>	188
<i>Multisource Timeout</i>	188
<i>IEEE 1284 Bi-directional Parallel Port</i>	188
<i>Parallel Interface Pin Assignments</i>	189
<i>Parallel Interface Timing</i>	190
<i>RS-232 Serial Interface</i>	190
Serial Port Configuration	191
RS-232 Pin Assignments.....	191
<i>RS-422 Interface</i>	192
RS-422 Pin Assignment	192
Troubleshooting the RS-422	193
Lead Polarities	193
Troubleshooting the RS-422 Interface	194
APPENDIX I. LCD MENU MAPS.....	197
INDEX.....	204

CHAPTER 1. INTRODUCTION

This printer is a high duty cycle, line matrix printer. Among the advanced features of this printer are:

- High speed at 1800 lpm
- Industry's only lifetime warranty on shuttle mechanism and striker bar
- IBM-compatible models
- Ideal for manufacturing pick lists and shipping documents
- Remote network printing
- Simultaneous connections with auto interface switching
- Industrial graphics, bar codes, and labels
- Standard emulations: menu- or host-selectable ANSI 4800, ANSI 4410, Epson FX286e, IBM Proprinter III XL, P 300/600, DEC LG and PPL3, and Pseries.
- Standard fonts: menu- or host-selectable Data Processing, Correspondence, Gothic NLQ, Graphics, Courier NLQ, Italic NLQ, High Speed, OCR-A, OCR-B and Oversize.

REFERENCE USAGE:

Warning

Warning is used to alert a user of a hazard that could cause personal injury or severe damage to the equipment.

Caution

Caution is used where there is a risk of damaging the equipment, parts or supplies.

Note

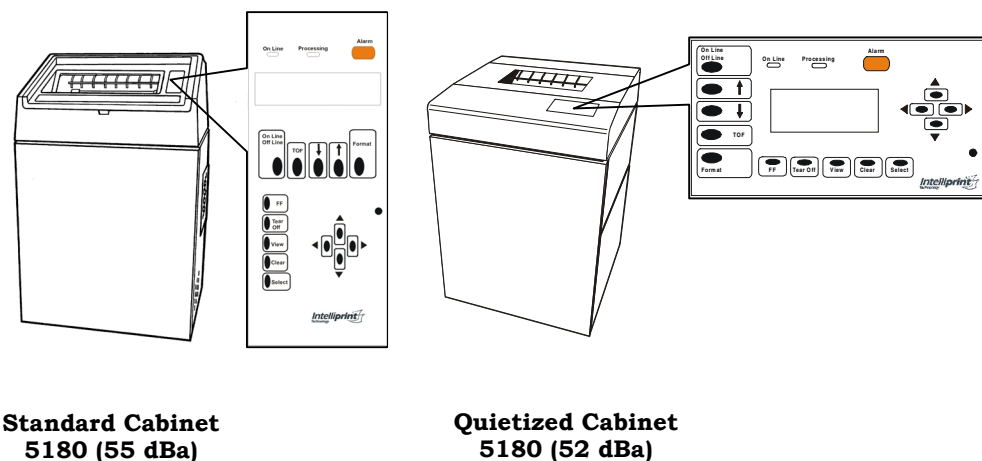
Indicates additional information.

For clarity, if a procedure or information is presented which is applicable to a specific cabinet model, a small graphic icon on the cabinet model is placed near the text. (See pictures below.)

ORGANIZATION OF THIS MANUAL

This User's Manual covers the 5180 model printers. Some procedures discussed in this manual are cabinet specific. The differences are noted within sections where possible and separated into sections where necessary. The following is a visual representation of the cabinet models available:

5180 CABINET STYLES AND MODEL NUMBERS



This User's Manual is divided into the following main sections:

Chapter 1: Introduction

- This chapter contains a brief introduction to the key features of the printer and the organization of this manual.

Chapter 2: Getting Started

- This chapter contains the instructions necessary to get the printer up and running.

Chapter 3: Operating the Printer

- This chapter contains descriptions of the control panel, the keys and navigation through the menu options.

Chapter 4: Using the Operator Menu

- This chapter details the procedures for accessing the options under the Operator Menu.

Chapter 5: Using the Setup Menu

- This chapter details the procedures for accessing the options under the Set Up Menu.

Chapter 6: Using the Maintenance Menu

- This chapter details the procedures for accessing the options under the Maintenance Menu

Chapter 7: Operator Care and Maintenance

- This chapter contains information for the user to care and maintain the printer.

The following appendices are provided for reference information:

Appendix A: Unpacking & Repacking

- This appendix contains information necessary to unpack the printer or repack the printer for shipment.

Appendix B: Paper Considerations

- This appendix contains information as a guide to paper supplies.

Appendix C: Considerations for Operation

- This appendix contains specifications on the printer.

Appendix D: Parts, Accessories, Consumables, Options

- This appendix contains a list of available parts, accessories, consumables and options available for the printer.

Appendix E: Font Print Samples

- This appendix contains print samples of the font styles available on this printer.

Appendix F: Flash Software Procedures

- This appendix contains upgrade software procedures.

Appendix G: Description of Strapping Options

- This appendix contains reference tables listing hardware and software strapping options.

Appendix H: Emulation Interface Compatibility

- This appendix contains reference tables for Emulation to Interface compatibility issues.

Chapter 2. GETTING STARTED

PREPARING THE PRINTER FOR OPERATION

Printer unpacking is complete when all accessories have been removed from the packaging and printer cabinet, and the shipping blocks and hardware have been removed from the printer. See Appendix A for instructions to unpack the printer from its packing materials. Instructions to remove shipping blocks and hardware follow this section.

Move the printer to a suitable operating location. See Appendix C for considerations on the space and conditions required for normal operation.



On the 5180 (52 dBa) Cabinet Model, two front casters have locks to stabilize the printer once it has been moved to its location. Press one brake tab to lock the wheel of the caster and press the other tab to unlock. See Figure 2-1.

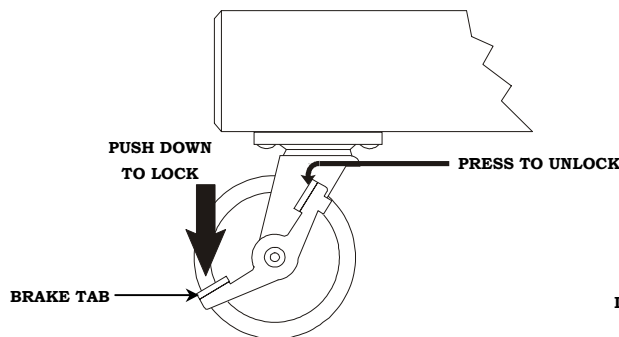


Figure 2-1
Brake Tab on Front Caster

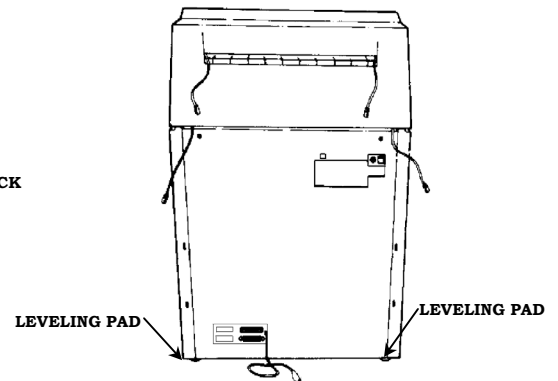


Figure 2-2
Rear View of 5180
(55 dBa) Model



Each corner of the 5180 (55 dBa) Cabinet Model printer has a screw down leveling pad near the wheel. Use the pads to level the printer on uneven surfaces or to prevent the printer from rolling. See Figure 2-2

Note

The printer should be initially setup following the instructions given in this chapter, in the order presented.

REMOVING THE SHIPPING BLOCKS AND HARDWARE

Use the following procedures to remove and discard the three shipping blocks and two striker bar support bolts before using the printer. The bolt heads and shipping blocks to be removed are yellow. See Figure 2-3 for part identification.

CAUTION

OPERATION OF THE PRINTER WITH THE SHIPPING HARDWARE INSTALLED WILL CAUSE EXCESSIVE VIBRATION AND DAMAGE. ALL THREE SHIPPING BLOCKS AND THE TWO STRIKER BAR SUPPORT BOLTS MUST BE REMOVED.

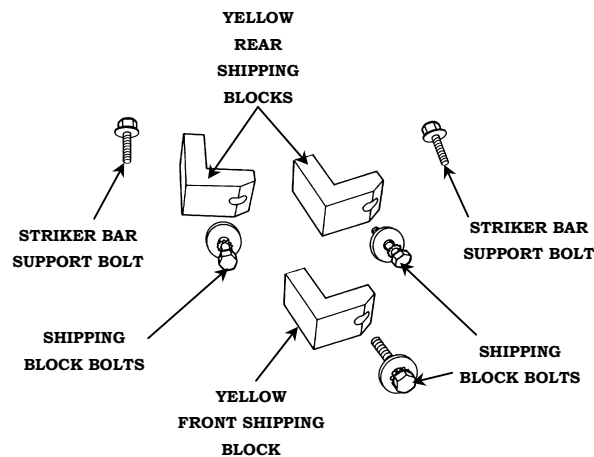


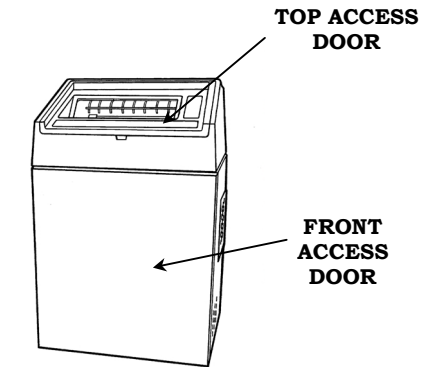
Figure 2-3
Shipping Hardware Parts Identification

Note

Due to production changes, the shipping hardware in the printer may vary slightly in type and appearance.

5180 (55 DbA Cabinet Model)

1. Open the front access door. See Figure 2-4.



**STANDARD CABINET
5180 (55 DBA)**

**Figure 2-4
Access Doors**

2. To locate the two yellow rear shipping blocks and bolts, enter the lower area of the printer far enough to look up behind the paper handling assembly (lower tractors and paper guides.) See Figure 2-5.
3. One yellow bolt is located near the front of the printer and the other two yellow bolts are near the back wall of the enclosure.
4. Remove the three yellow shipping block bolts from the “ceiling” of the lower enclosure. See Figure 2-5.

5. Reach up behind the paper handling assembly and remove the two yellow rear shipping blocks. A screwdriver can be used to help loosen the blocks.

Note

The yellow front shipping block is removed from the topside of the printer.

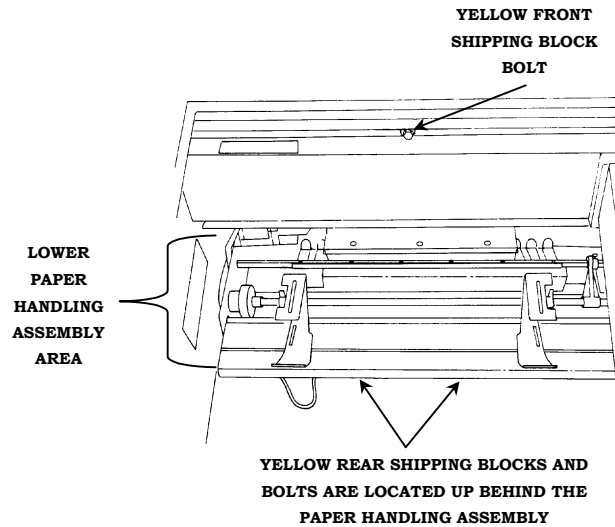


Figure 2-5 Shipping Block Bolts

6. Open the top access door. See Figure 2-4.
7. Unscrew the two print module access panel screws (Figure 2-6) and tilt the print module access panel up towards the front of the printer.

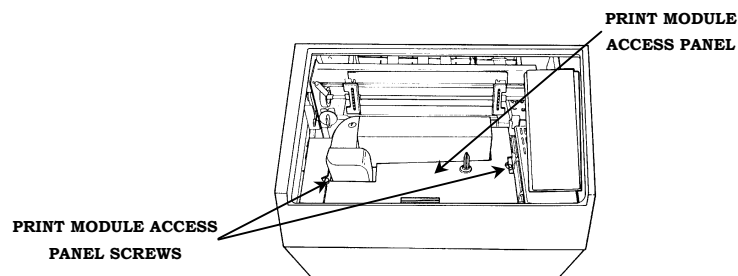


**Figure 2-6
Print Module Access Panel**

8. Remove the yellow front shipping block. A screwdriver can be used to slide the block free. See Figure 2-7.

9. Remove the two yellow striker bar support bolts. See Figure 2-7.

CAUTION

REMOVE ONLY THE TWO YELLOW (SHOWN AS SHADED) STRIKER BAR SUPPORT BOLTS INDICATED IN FIGURE 5.

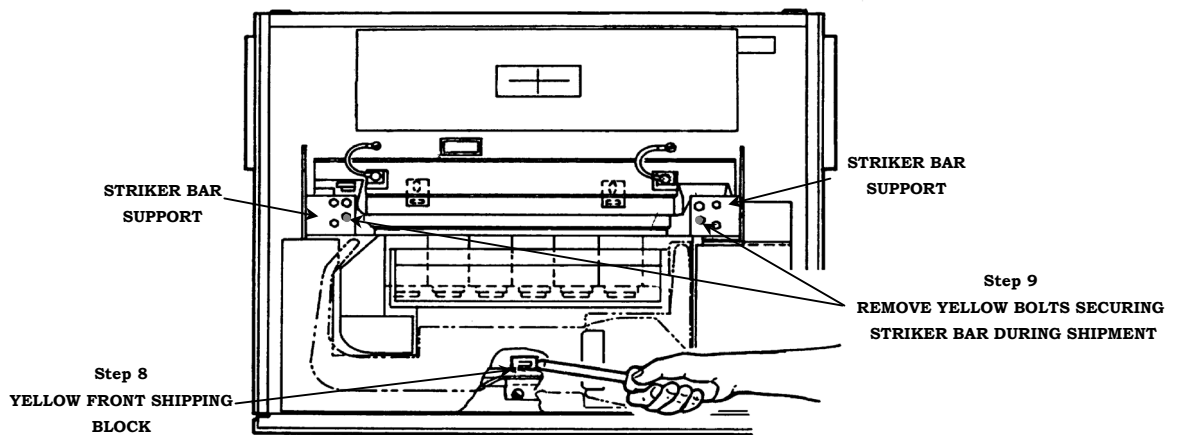


**Figure 2-7 (Top View)
Shipping Block Locations**

10. After replacing the print module access panel, make sure the access panel screws are properly threaded and tightened securely. The print module access panel has an AC power interlock switch that removes power when the print module access panel is raised.



5180 (52 DbA Cabinet Model)

To maintain stability in the printer during shipping several brackets are used to attach the print mechanisms to the frame. THESE MUST BE REMOVED BEFORE THE PRINTER IS PUT INTO OPERATION! Please follow the steps listed below to remove the brackets. (Save the hardware items that are removed in the event the printer needs to be shipped to another location in the future.)

1. On each side of the upper tractors is a block with several bolts through it. Remove the front yellow bolt located next to the upper tractor on each side (indicated as shaded in Figure 2-8).

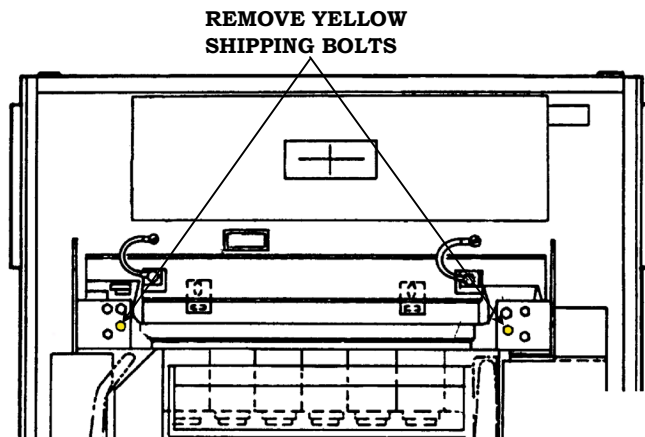


Figure 2-8

2. Open the front cabinet door. A yellow plastic shipping bracket along with a metal right angle piece is located between the print mechanism and the cabinet frame. They are held in place with a bolt starting from the underside of the cabinet frame. Remove the bolt and shipping bracket. See Figure 2-9.

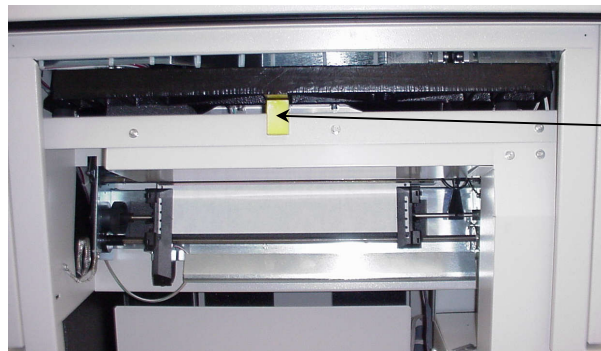


Figure 2-9

3. Open the rear cabinet door. The yellow shipping bracket is located below the paper handling hardware. Remove the four yellow bolts holding this bracket in place and remove the bracket. See Figure 2-10.

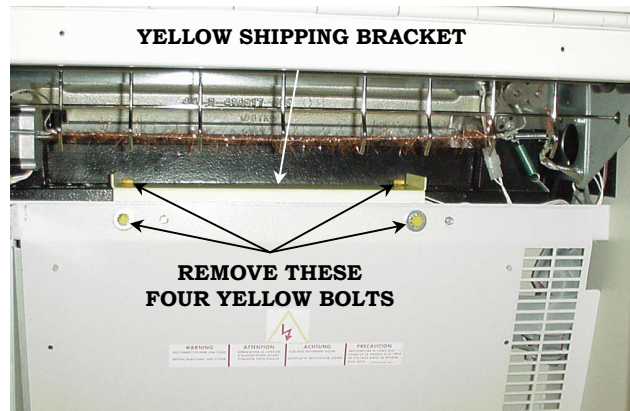
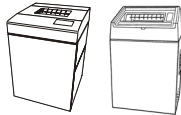


Figure 2-10

CONNECTING THE POWER CORD



The 5180 (52 or 55 dBA) Cabinet Model printer is equipped with a voltage selection switch located on the back panel. The switch has two positions, 115V or 230V. This switch is factory set to 230V.

Caution

Set the voltage selection switch to the proper line voltage before plugging in the power cable.

The allowable voltage variation is $\pm 15\%$ and the allowable frequency is 48 to 65 Hz.

A power cord is packed with the printer. Plug the female end of the cord into the recessed connector at the rear of the printer. See Figure 2-11. Plug the other end into a compatible, properly grounded AC outlet.

Note

The AC outlet must be rated for at least 10-ampere service.

Avoid using AC circuits serving other equipment which may cause chronic low voltage, noise interference, or power fluctuations. Data loss may result.

CONNECTING THE INTERFACE CABLE

Both a 25-pin RS-232C serial interface connector and a 36-pin CENTRONICS parallel interface connector are standard on this printer. Both connectors are located on the data connector plate on the rear of the printer. See Figure 2-11.

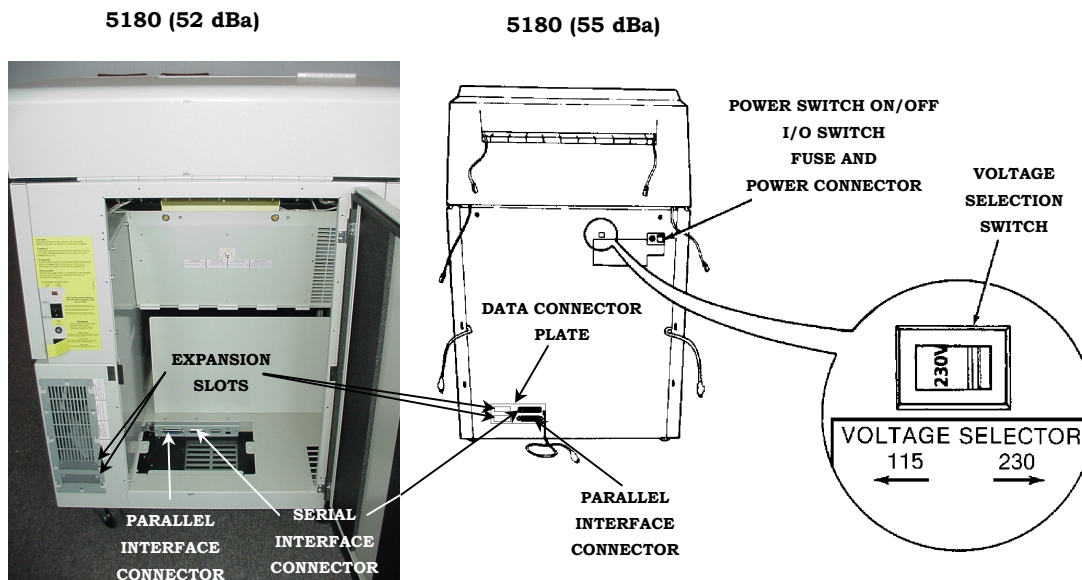


Figure 2 – 11 Power Cable and Interface Connections

I/O Interface Card Options available

There are two expansion slots located in the rear of the printer. The interface options available are:

Legacy parallel

DPSL (Dataproducts short line)

DPLL (Dataproducts long line)

IBM/TX/CX

Ethernet (10/100, 10baseT, and Token Ring)

DESCRIPTION OF THE CONTROL PANEL

The control panel is mounted in the top of the printer and is accessible with the top cover either open or closed. The Control Panel utilizes a display panel composed of two rows of sixteen characters each.

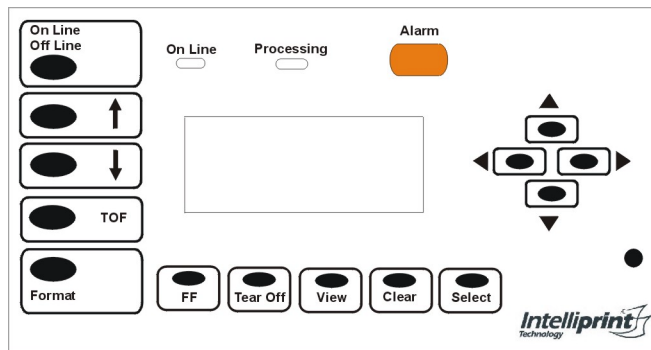


With the top cover open, the control panel on the 5180 (52 dBa) Cabinet Model will move around slightly to the touch. This is normal. The floating mount allows the panel to align itself when the top cover is closed.

Note

The control panel mount on the 5180 (52 dBa) Cabinet Model is hinged so that it can be tilted forward to remove the print module access panel for service.

The basic look and layout of the 5180 (52 dBa) Cabinet Model control panel is represented by the following:



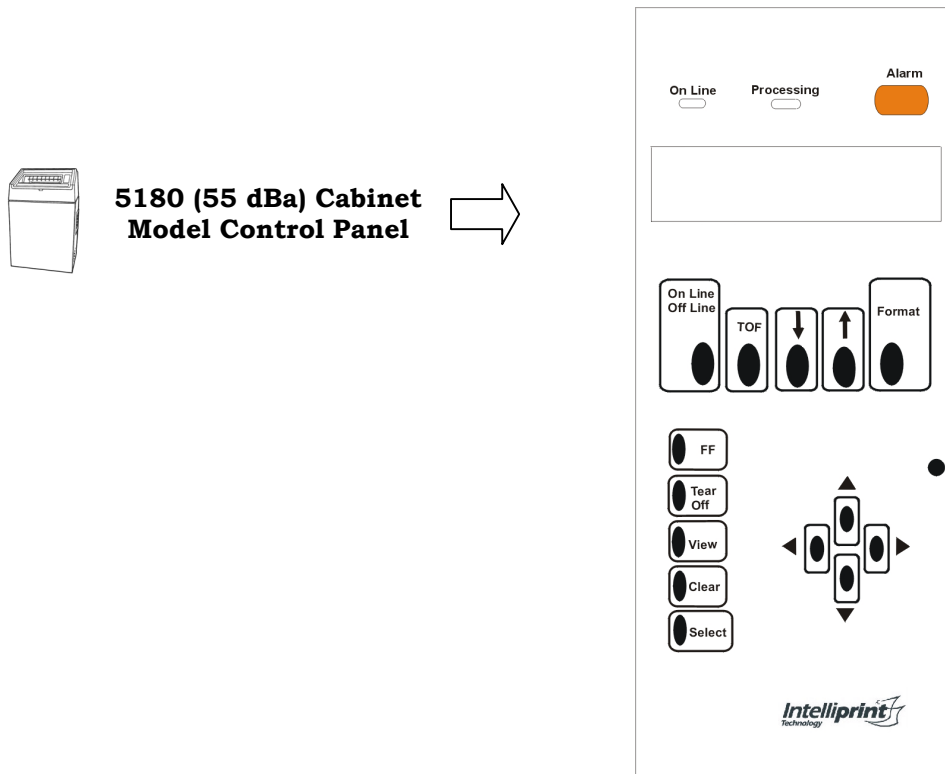
The four keys to the right of the display are to navigate the menu tree structure and are referred as menu browse keys. The **On Line/Off Line** key is located at the top of the left row of keys. The three keys below the **On Line/Off Line** key, ↑ (up arrow), ↓ (down arrow), and **TOF**, are used to set top of form. See “Setting Top of Form” in Chapter 3 for additional information. The bottom left key, **Format** (in conjunction with the **Select** key), is used to select one of ten stored form formats. The **FF**, **Tear Off**, and **View** keys under the display are additional paper positioning functions. The **Clear** and **Select** keys are used in data entry.

When in the online state, only the **FF**, **On Line/Off Line**, **Tear Off**, & **View** keys and limited functionality of the **Clear** and **Select** keys are active. Pressing any other key causes a “beep.” The “Processing” LED indicator is lit whenever data is being received and or being processed/printed. In multi-source I/O mode, the “Processing” LED indicator will blink for the duration of the timeout period when processing is complete.

The 5180 (55 dBa) Cabinet Model control panel looks slightly different with the LCD display, keys and LED indicators located in different locations than the 52 dba model, but the functionality is the same.

Note

The control panel mount on the 5180 (55 dBa) Cabinet Model is stationary and does not tilt forward.



Beeper

The control panel beeper sounds momentarily when:

- A key is pressed.
- A BEL control code is received. (The host can send a “bell” code to sound the printer’s beeper. For more information, see the *Programmer’s Manual*.)
- A PAPER LOW condition exists.
- An EVFU loading error occurs. (For more information on the EVFU, see the *Programmer’s Manual*.)
- A hard fault occurs. (See Chapter 7 for an explanation of hard faults.)

Display

The two row by sixteen-character LCD provide the following information:

- The printer's status - Online, Offline, Self-test, etc.
- Which menu or menu option is presently on display to assist in making selections.
- Fault messages.

Keys

The keys are sealed and raised rubber-type switches used to make menu selections, clear faults, and position the paper. An explanation of the keys' functions is given in the following section on "Operation of the Control Panel."

OPERATION OF THE CONTROL PANEL

The primary use of each key is printed beside the button itself.



Pressing the **On Line/Off Line** key causes the printer to toggle between online and offline operation. Offline operation allows access to the menu functions. The **On Line** key is also a shortcut to the top of the menu tree.



Pressing the **↑** key moves paper up incrementally.



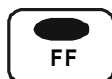
Pressing the **↓** key moves paper down incrementally.



Pressing the **TOF** (Top of Form) key sets the top of form position on the printer.



Pressing the **Format** key allows the operator to select from up to ten stored formats. The key is repeatedly pressed until the desired set up format is being displayed, press the **Select** key to activate the selected format.



Pressing the **FF** key moves paper to next top of form according to the top of form set for the printer.



Pressing the **Tear Off** key advances the paper to the selected tear position and will auto retract to the selected retract position after 15 seconds. Pressing the tear off key any time within that 15 second wait period will retract the paper to the selected retract position. The printer will emit three beeps prior to retracting the paper.



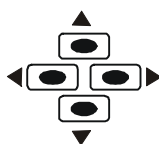
Pressing the **View** key advances the paper such that the last printed line is visible in the top cover window. Pressing the **View** key a second time will return the paper to the last print position. Receipt of any data will also retract the paper to the print position.



Press the **Clear** key to exit or backup data entry and selection levels.



Press the **Select** key to enter or select data entry.



Pressing the menu browse keys allows navigation of menu selections. Press the **◀** (left) or **▶** (right) menu browse keys allows navigation of menu selections laterally within the same level. Pressing the **▲** (up) or **▼** (down) menu browse keys allows navigation up or down a level of menus. While in a user set option, these keys are used for data entry.

Data Entry

There are two modes of data entry for the control panel. The first mode is to select from a list of several options displayed on the bottom line of the LCD. The entries are sequentially displayed on the bottom line of the LCD in response to browse keys (◀ and ▶). The optional selections are shown as a circular list. For example, in selecting CPI, the choices 10, 12<, 13.3, 15, 16.7, 17.1, 20, and XX.X USER SET will be displayed sequentially. If one of the displayed values (i.e. numbers) are selected (other than the XX.X USER SET) the selection process is completed by depressing the **Select** key.

Note

The current setting is marked with the < symbol (12< shown above.)

In USER SET mode the display switches to a format where the operator may enter any value 0 to 9 for any “X” position. The four menu browse keys revert to data entry operation. The horizontal ◀ ▶ (left or right) keys position the cursor (underline) to the digit to be changed; the vertical ▲ ▼ (up or down) keys increment/decrement the selected digit by one. In the example used previously, 12 CPI was active when the selection process was entered (shown above as 12<). The operator selected from the list, the XX.X USER SET. The display shows 12.0, where the underline indicates the active digit, and where 12.0 is the current CPI value. Depressing the up menu browse key increments that digit from 12.0 to 22.0 or higher, where only the first digit increments. Depressing the right arrow key moves the cursor from 22.0 to 22.0. Depressing the right arrow again moved the cursor from 22.0 to the 10th position (the decimal point is automatically skipped over) from 22.0 to 22.0. Depressing the right down arrow key changes the digit from 20.0 to 20.9 (the values wrap 0 1 2 3 4 5 6 7 8 9 etc).

Note

Since the four menu browse keys are used to make this type of entry, use the Select key or CLEAR key to exit this type of data entry. If the Select key is pressed, the display shows the selection as from above: 22.9 USER SET. If the CLEAR key is used, the menu entry jumps back to the previous (higher) level showing XX.X User Set as above without changing the CPI.



INSTALLING THE PAPER HANDLING SYSTEM (55 dBa CABINET MODEL)

The paper handling system for this printer consists of an upper paper rack and a paper shelf with wickets and a stacking aid. See Figure 2-12.



Note:

The 5180 (52 dBa) Cabinet Model has an internally installed paper handling aid.

The paper shelf hangs on the metal plate. The metal plate hangs on the back of the printer near the floor. The paper rack hooks onto the opening in the rear of the printer. See Figure 2-12.

Use the following procedures to install the paper handling system:

1. Hang the paper rack on the back of the printer as shown in Figure 2-12 and connect the four static ground wires to the slip on connectors.

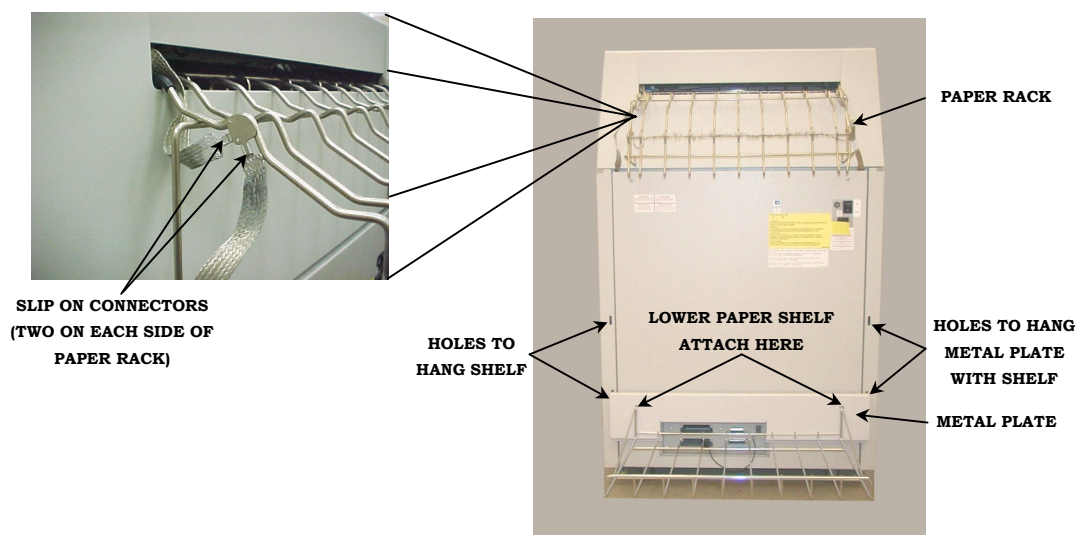


Figure 2-12
Rear View of Printer
With Paper Shelf Attached

2. Fasten the paper stacking guides to the paper shelf. Attach the paper shelf to the metal plate as shown in Figure 2-12. Hang the paper shelf in the lower set of holes provided in the rear of the cabinet at the outside edges.
3. Slide the wickets along the shelf so the distance between the wickets accommodates the length of the fanfold paper (form length).

4. Lay the V-shaped paper stacking aid on the shelf between the wickets. This stacking aid should be used when stacks of 1000 or more forms are anticipated. See Figure 2-13.



Figure 2-13 “V” Shaped Metal Paper Stacking Aid

Loading Paper

This printer is designed to use edge-punched (sprocket, or pin-fed) fanfold paper. See “Paper Specifications” in Appendix B for further description of the types of paper that can be used in the printer.

CAUTION

Printing without paper or using paper too narrow for the job may damage printer components and void the printer warranty. Full-width paper (greater than 14 5/8-inch or 371cm) should be used until the operator is familiar with the printer’s setup and operation.

To load paper in the printer, complete the following steps:

1. Lift the top access door of the printer.
2. Turn the print gap wheel to the **LOAD** position by turning the print gap wheel *clockwise* until it stops. See Figure 2-14.

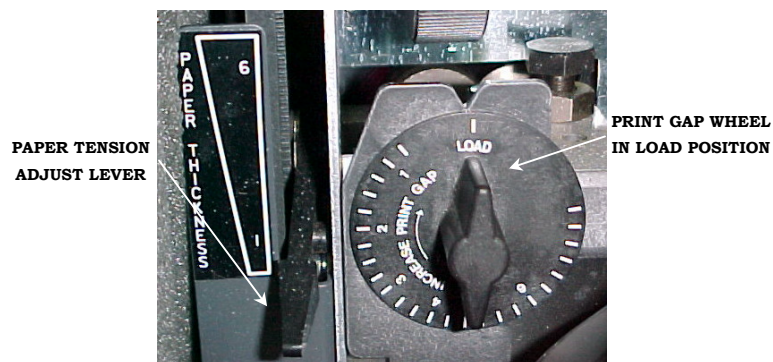


Figure 2-14 Print Gap Wheel

3. Push the paper tension adjustment lever down to position 1. See Figure 2-14.

Paper Out

Striker Bar Open

Note

If the power has been applied to the printer, the fault messages Paper Out and Striker Bar Open will appear on the display panel and the beeper will sound. These will alternately display in the upper left corner of the display panel until the CLEAR key is pressed.

4. Open the top left and right tractor . See Figure 2-15.

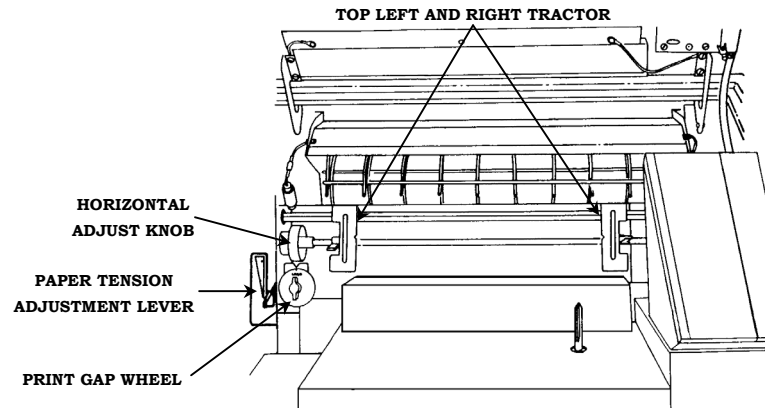


Figure 2-15 Top View of Printer

5. Open the front door and place the paper supply in the enclosure.

6. Open the lower left and right tractor doors. See Figure 2-16
Hand feed the paper, bypassing the lower tractor pins, up through the printer to the top tractors.

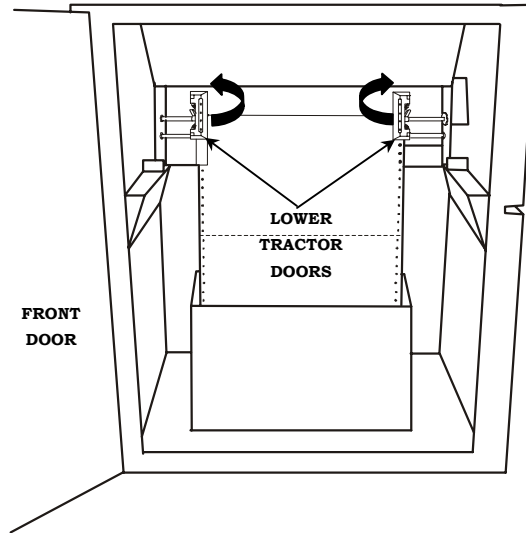


FIGURE 2-16 LOWER TRACTOR DOORS

Note

To load single-part paper, fold the paper over at a perforation so that the first two forms are double-thick. Later, when printer power is on, feed these doubled forms out of the printer before adjusting the print gap.

7. Place the paper onto the pins of the upper left tractor and close the tractor door.

If necessary, release the locking lever on the right-hand tractor by flipping it down, and slide the tractor sideways to match the paper width. If necessary, see Figure 2-17.

Note

Initially, load the paper so that it will print on the second form (rather than first form) because a default setting pulls the paper down into the printer a minimum of 4 inches (see “Setting Top of Form”). Later, vertical positioning and top of form (TOF) alignment will be completed after the printer is in operation.

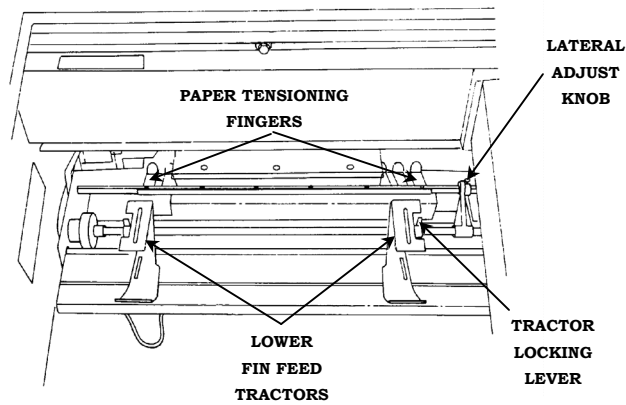


Figure 2-17. Lower Paper Path

8. Place the paper on the pins of the upper right tractor, making sure that the paper is straight horizontally, and close the tractor door.

With the right tractor locking lever released (flip the lever upward), slide the tractor *slightly* to the right to make the paper taut. Excessive tension will tear the pinholes and cause the paper to become misaligned. Lock the tractor in place by pressing up on the locking lever.

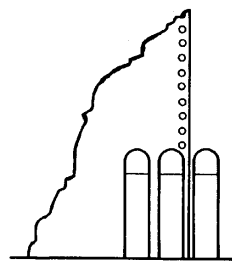
9. While applying a *slight* downward tension, lay the paper onto the lower tractors and close the tractor doors. If needed, unlock and adjust the right tractor for correct paper tension.
10. Close the front door.
11. Set the print gap wheel (Figure 2-14) for the paper thickness to be used (normally set to 1 for single-part thickness, 2 for two-part forms, etc.) The final adjustment will be made while printing a test pattern (page 27.)
12. The fingers on the paper tensioning bar flattens the paper and squeezes air from between multipart forms. Set the paper tension adjust lever for the paper thickness to be used (normally set to 1 for single-part thickness and a higher number as needed for multipart forms.) See Figure 2-16.

13. Close the top access door.

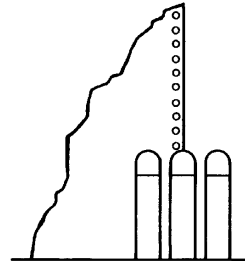
Tension Fingers Lateral Adjustment

The bar holding the tension fingers can be adjusted sideways by loosening the tension finger lateral adjust knob. See Figure 2-17.

Adjust the bar so the left and right edges of the paper pass either directly under the middle of a finger or between two fingers. This will prevent snagging or ruffled edges on the paper. See below.



PAPER EDGE BETWEEN FINGERS



PAPER EDGE UNDER FINGER

HORIZONTAL POSITIONING OF THE PAPER

The column indicator label is located on the print module access panel. The column indicator label also contains directions for replacing the ribbon cartridge. See Figure 2-18. Use this label as a guide to position the paper horizontally within the printer. Turn the horizontal paper adjustment knob to align the paper as needed. This positions the paper for the first physical print column.

If a left margin is desired, it is set electronically through either the control panel keys or a command sent by the host.

The marks on the label are set up for paper with a 1/2-inch perforation strip.

Aligning the edge of the paper with the first mark will cause the first column to print immediately after the perforation strip. Aligning the edge of the paper with the mark labeled 1.0 will cause the first column to print 1 inch from the edge. Using 6 characters per inch, this position is column 6 on the paper after the perforation strip.

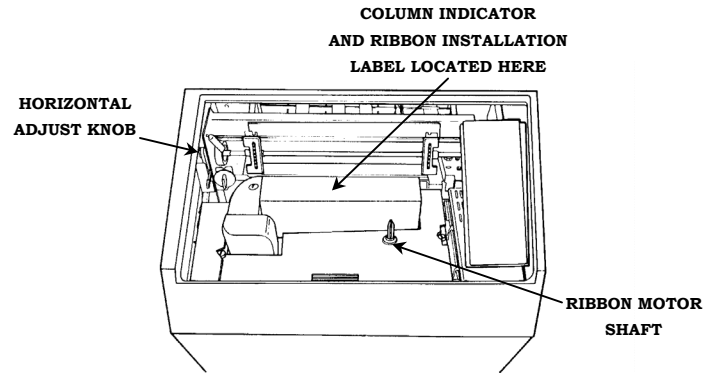


Figure 2-18 Top View of Printer

INSTALLING OR REPLACING THE RIBBON CARTRIDGE

To install a ribbon cartridge in the printer, complete the following steps:

11. Lift the top access door of the printer.

Note:

If the thickness of the paper will remain the same after the ribbon cartridge is replaced, note the present setting of the print gap wheel.

12. Turn the print gap wheel fully *clockwise* to the **LOAD** position. See Figure 2-14.
13. Turn the knurled knob on the new ribbon cartridge *clockwise* to remove any slack in the ribbon (Figure 2-19.)
14. If the new ribbon is equipped with a reinker, be sure to remove the reinker pin before installing. See Figure 2-19.

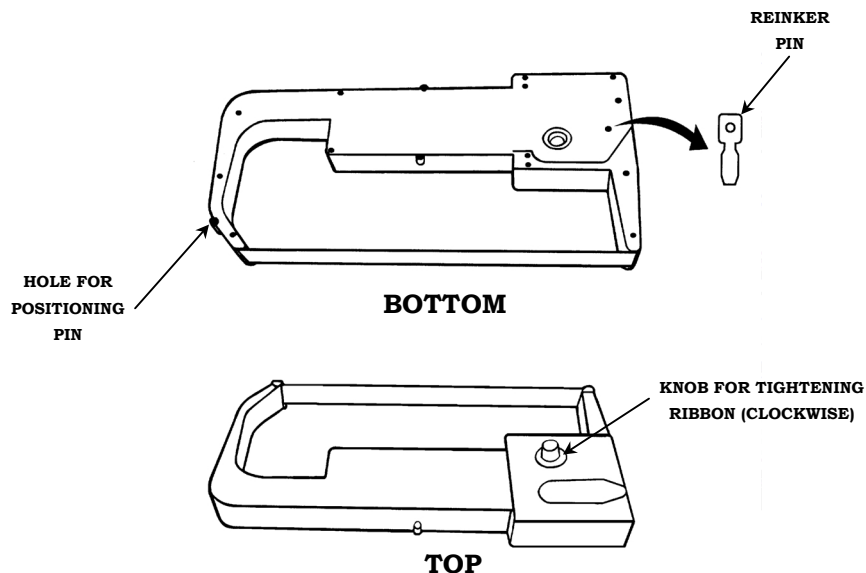


Figure 2-19 Ribbon Cartridge

15. Tilt the left side of the ribbon cartridge down and place it on the positioning pin. Using the fingers on the left hand, guide the cartridge onto the positioning pin. The left edge of the cartridge will guide the ribbon between the ribbon guide and the smudge shield. See Figure 2-20.
16. Lower the right side onto the ribbon motor drive shaft (Figure 2-18). Turn the knurled knob on the ribbon cartridge (Figure (2-19) a few times to verify that the ribbon is running freely and to remove any slack.

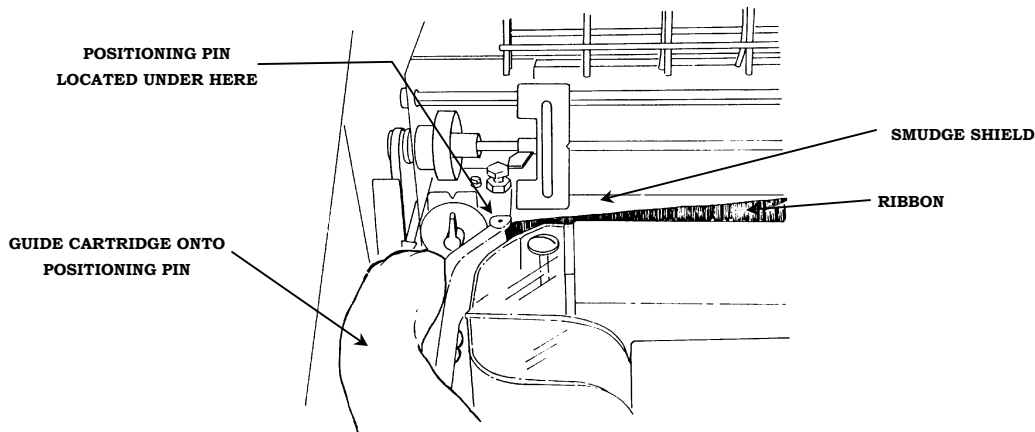


Figure 2-20 Ribbon Installation

17. Reset the print gap wheel to the original setting or to a setting appropriate for the thickness of the paper being used.
18. Close the top access door.

SETTING THE PRINT GAP

The print gap wheel is used to adjust the distance between the bank of print head actuators and the striker bar. See Figures 2-15 for the location of print gap wheel.

Setting the gap *too tightly* will cause smudging on the paper and can obstruct the movement of the shuttle mechanism. Overloading or stalling the shuttle will cause the printer to stop and **Shuttle** will be displayed on the control panel.

Setting the gap *too loosely* may cause unacceptable print quality and excessive noise.

Note

The moisture and content and the thickness of the paper determine the ideal setting. Adjust the print gap wheel to produce the best quality possible.

PAPER TENSION ADJUSTMENT

The paper tension lever is located next to the print gap wheel. It is used to maintain the proper tension on the paper during printing. See Figure 2-15.

Move the lever to position 1 (the bottom position) when loading paper, setting top of form, and printing single-part paper. This position applies the least tension to the paper and should be used as the first trial position for all forms.

For multipart forms and single-part paper that is heavier than 20 pounds, higher paper tension lever settings may be required. Six-part forms are normally run at the second or third position.

The higher paper tension settings are used to squeeze air out from between the layers of multipart forms. Increase the tension if the print quality on the last part of the form is printing too light.

Note

Too much tension may tear the paper or elongate the holes.

POWER-ON SEQUENCE

With the ribbon cartridge and paper installed and the power cable connected, the printer is ready for power to be applied. The power switch is located on the rear panel. See Figure 2-11.

The following describes the power-on sequence and shows the expected display:

- | |
|---------|
| Startup |
|---------|
- | |
|-------------------------------|
| Loading ---
Please Wait--- |
|-------------------------------|
- | |
|-----------|
| Self Test |
|-----------|
- | |
|-------------------|
| Online
Default |
|-------------------|
1. The printer starts diagnostics and **Startup** shows on the display. The shuttle and ribbon motors will run for a brief period.
 2. The printer loads the processing software and **Loading ---** is displayed in the upper left corner of the display and **Please wait...** is displayed in the lower left corner of the display. The printer's display briefly shows **Self Test** before returning to the previous display. During this loading and self test phase, the alarm light flashes.
 3. The printer completes the sequence in approximately 15 seconds.
 4. When the power-on sequence and self-test are completed, **Online** is displayed in the upper left corner of the display window and **Default** is displayed in the lower right corner of the display. The alarm light discontinues flashing.

TEST PATTERN PRINTING

- | |
|-----------------|
| Offline
Menu |
|-----------------|
- | |
|-----------------------|
| Main Menu
Operator |
|-----------------------|
1. With the printer in **Offline** menu, press the ▼ (down) menu browse key to access the main menu options.
 2. Press the ◀ (left) or ▶ (right) menu browse key until **Operator** is displayed in the lower right corner of the display window.

- | | |
|--------------|---------------|
| Operator | Test Pattern |
| Test Pattern | CLEAR to Stop |

[illegible]

GEK-00028C

CHAPTER 3. OPERATING THE PRINTER

PRINTER OPERATIONAL MODES

- ONLINE
- OFFLINE
- Fault State
- Menu

Each printer state (mode) will display its own operational characteristics. These modes are defined as follows:

Online

The online state is the normal operating mode of the printer where it is ready to accept data from the host. There are functional restrictions in this mode, to prevent interference with a print job that may be in progress.

Offline

The offline state allows more operations including menu functions.

Fault

The fault state is a special case where a few options are available as the machine is in a condition that may inhibit many operations. It will allow operations that are required to clear the fault condition(s). The normal exit, when a fault is corrected, is to press the **Clear** key.

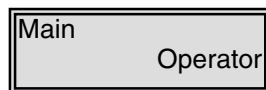
Menu

The menu state is where the settings or configuration of the printer may be altered.

Status Display

Depressing the **Select** key while online activates the status display. The LCD cycles through and displays the current printer settings, including **Format, Font Style, Code Page, CPI, Interface, Printer Emulation and I/F Emulation**. Press the **Clear** key to terminate this display.

MAIN MENU



The Main menu is organized in a tree structure. The active level is displayed on the upper left corner of the LCD display and selection options available displayed sequentially one at a time, on the lower right corner of the LCD display.

The Main menu presents only the allowable (not hidden) top level selections, Operator menu, Setup menu, Maintenance menu and Menu Control. If a menu is locked from view only those menus setup for viewing will be displayed (See “Menu Control”, for further information.) The following menus are available from the Main menu level, if all menus are setup as accessible:

- Operator menu
- Setup menu
- Maintenance menu
- Menu Control (See “Menu Control” for procedures to view this menu.)

Operator Menu

The Operator menu is for the user to make certain selections. Normally, the Operator menu involves loading paper, correcting faults, and allows temporary changes to settings that have previously been set in the Setup menu. For procedures to navigate the operator menu, see Chapter 4. For a complete listing of menu selections, see the Operator Menu Map in Appendix I.

Setup Menu

The Setup menu is used to set up the printer to the customer’s environment as necessary for day to day normal operations. The Setup menu allows configuration settings in the printer to be changed and saved. Some settings are selected, enabled or user set. For procedures to navigate the setup menu, see Chapter 5. For a complete listing of menu selections, see Setup Menu Map in Appendix I.

Maintenance Menu

The Maintenance menu is for the maintenance technician for tune-up operations such as print actuator monitoring, print quality and upgrade procedures. The Maintenance menu contains selections for hardware setup, such as checking and resetting of counters, etc. For procedures on navigating the maintenance menu, see Chapter 6. For a complete listing of menu selections, see Maintenance Menu Map in Appendix I.

Menu Control

The Menu control feature restricts/allows access to the other menus; Operator, Setup and Maintenance. This feature also restricts/allows access to control panel keys; Tear Off, View and Format. This menu is only visible after using the following procedure during power up:

- Simultaneously depress the **FF** key and the **↑** key while turning the power on to the printer.

The printer will power up as normal, but a fourth menu, Menu Control will be viewable and accessible.

SETTING UP A FORMAT

A format is a set of stored printer parameters tailored to a particular customer's job, such as invoices, pick tickets, etc. and consists of setting a format name, font style, character set, country, CPI, LPI, form length, left margin, right margin, top print reference, left print reference, horizontal expansion, vertical expansion, print modifiers, print options, print control, general printer options, and the slew rate. The customer may set up to 10 different formats.

Setting up a format consists of two steps; modifying and saving a format.

Note

Up to ten stored formats may be saved for later recall. Each format should be given a unique name.

Active Format

The active format is a set of parameters that presently resides in the printer's processor. When printing starts, these active parameters are used to format the page.

The active format can be parameters that were entered through the control panel, sent from the host, or one of the stored formats selected. The active format is labeled ACTIVE on the status page printout.

Setting up the Active Format

The active format can be set up using the following two methods:

- From the Setup menu, under **Modify Format** menu, the **Form Length, Top Print Ref**, etc may be set.
- ANSI Emulation - use the ESC[p1;p2;p3r escape sequence to set the active form length, top print ref, etc. (See the *Programmer's Manual* for information on escape sequences.)

Note

See “**Formats**” for additional information.

Form Length

Form length is set using the current LPI (lines per inch) value. If the form length is set to 66 lines while the LPI is set at 6, the length will be 11 inches. After the form length has been set up, a LPI change will not change the form length. This is useful for matching odd size forms and Lines Per Inch settings. For example, 3-1/3 inch form length and 8 LPI print spacing.

The minimum form length is .33 inch (2 lines at 6 LPI) and the maximum length is 22 inches (132 lines at 6 LPI).

Top Print Ref

Setting a Top Print Ref (top print reference) changes the effective first print position relative to the perforation. Setting a top print ref effectively changes the physical Top of Form paper position and is a one time physical offset of the paper that is executed at the Set TOF function. The top print ref (top print reference) is set using the currently set LPI value. If the offset distance is set to 6 lines while the LPI is set to 6, printing will start on line 7. Lines 1- 6 (1 inch) will be skipped. After the form has been set up, a LPI change will not alter the length of the offset distance.

LOW PAPER PRINTING

Low paper printing allows replenishing the forms supply without losing data or forms registration.

This printer will print to the end of the current form or to the end of the last form (end of paper) after sensing a low paper condition if the form length corresponds with the active page length.

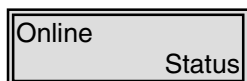
Note

If the print job has been using reverse paper moves (backing paper up while using bar codes, oversize, or vertical moves, do not use the low paper printing feature. Once the paper runs out of the lower tractors, poor print quality and jams will occur. A form length of 12.5 inches or longer causes the printer to bypass the low paper fault. The printer will go to a paper out condition.

Low Paper

Paper Almost Out	When the paper supply runs down to approximately 12.5 inches (32cm) remaining, the paper out sensor is activated. The alarm light will flash and Paper Almost Out will display in the upper left corner of the display.
Offline Low Paper Menu	Press the Clear key. Offline and Low Paper will be displayed in the upper line of the display window and Menu will be displayed in the lower line of the display window.
Offline Low Paper Status	Press the On Line key and the printer will finish the remainder of the current form and stop. Offline and Low Paper will be displayed in the upper line of the display window and Status will be displayed in the lower line of the display. The printer will finish the remainder of the current form and stop.
Paper Out	- The alarm light will flash and Paper Out will display in the upper line of the display. - Replenish the paper supply in the printer. (See “Replenishing Paper Supply for additional information.) The printer will finish the job inside the printer buffer when the printer is replenished with paper and back online with the appropriate form settings. (See “Setting TOF” for additional information.)

Replenishing Paper Supply



If the operator wants to change forms or paper:

1. With the printer in the online status, press the **FF** (form feed) key to eject the remaining forms out of the upper tractors. (If Paper Out is displayed in the upper left corner of the display window, press **FF** (form feed) key to eject the remaining form out of the upper tractors).
2. Load a fresh supply of paper/forms and return the print gap wheel to the proper setting. See “Loading Paper” in Chapter 1.
3. Use the ↑ and/or ↓ arrow keys to make final adjustments to the perforation’s position relative to the center marks on the upper tractors.
4. Press **TOF** key and place the printer Online. (If necessary, see Setting Top of Form below.)
5. Press the **Clear** key to clear the fault displays.
6. Press the **On Line** key to place the printer online.

SETTING TOP OF FORM

Setting the top of form tells the printer where the top of form position (perforation) is located on the paper.

Use the following procedures to set the top of form:

1. The paper perforation must first be positioned at the pointer on each of the upper tractor doors. See Figure 3-1.
2. Position the paper using the ↑ key and/or ↓ keys, if necessary.

3. Press the **TOF** key. After the perforation is positioned at the pointers and the **TOF** key is pressed, the printer will move the paper so that the paper is correctly positioned at the print wires for printing. Press the **On Line** key to place the printer online.

Note

To ensure proper printing integrity, do not print within 1/8 inch of perforations.

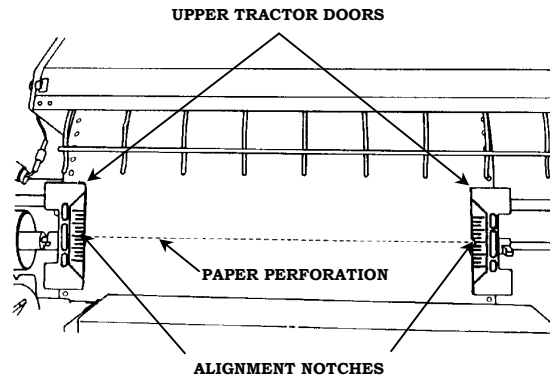


**Figure 3-1 Paper Alignment
For Top of Form**

PAPER TEAR-OFF FEATURE

Pressing the **Tear Off** key starts the paper tear-off feature cycle.

This feature moves the paper forward, out of the printer, far enough to tear off the last printed form at its perforation. **Tearoff** will show in the display. After a 15-second delay, the beeper will sound a warning. The paper then retracts back into the printer and is positioned at the print wires ready to print.

Pressing the **Tear Off** key a second time during this cycle will cancel the 15-second delay and immediately retract the paper.

This feature will not work during a fault condition such as **Ribbon Jam** or **Striker Bar Open**.

LOCAL AUTO VIEW FEATURE

The local auto view feature is used to view the last line printed through the glass in the top cover.

Viewing

This feature is activated using the **View** key from the control panel. Pressing the **View** key causes the paper to move up until the last printed line is at the pointers of the upper tractors.

Retracting

Pressing the **View** key a second time will cause the paper to move back down until it is positioned at the print wires ready for printing. Receipt of any data will also retract the paper to the print position.

THE INTERLOCK CIRCUIT

This printer has an interlock circuit(s) to meet safety and international requirements.

Print Module Access Panel AC Interlock Switch

The interlock switch circuit disables the power supply voltage when the print module access panel is lifted. This eliminates any potential shock hazard or inadvertent printer start-up while moving parts in print area are accessible. The print module access panel must be in place and both thumbscrews must be tightened securely for printer operation. See Figure 3-2.

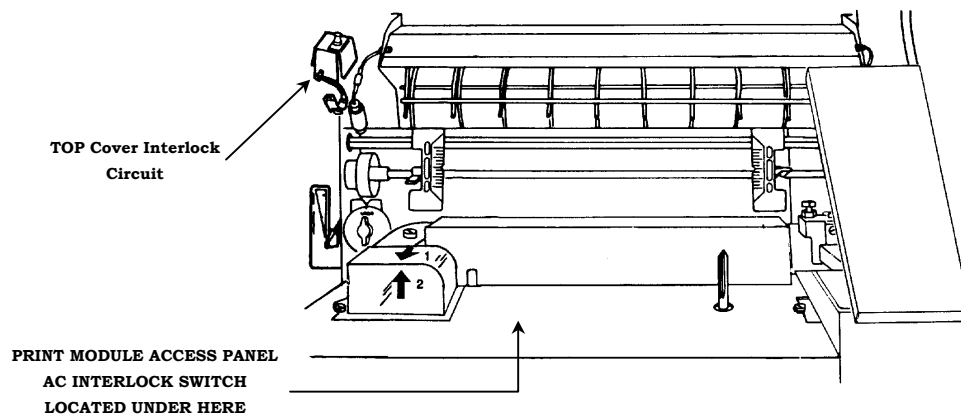


Figure 3-2 Interlock Circuit

Top Cover Interlock Switch



On the 5180 (55 dBa) Cabinet Model, there is a top cover interlock switch. It is located in the upper left corner of the door opening. See Figure 3-2. When the door is opened, the beeper will sound, printing will stop, and the display will show **Cover Open**. To use the printer with the door open, pull the switch plunger up and press the **Clear** key to clear the display.

Note

Removing the print module access panel with the power applied will energize the interlock circuit. If this happens, the print module access panel must be replaced, power must be turned off for a period of 5 minutes before attempting to reapply power.

INITIALIZING THE PRINTER

Initializing resets the printer electronics and sets the printer parameters to factory defaults. Parameters include margins, tabs, forms control, characters per inch, lines per inch, etc.

When to Initialize

Initialize the printer when:

- It is desirable to reset the printer to the factory default settings.
- After new software has been installed.
- Repair actions involving the logic circuit boards have been made.

USING THE KEYPAD TO INITIALIZE

Using the control panel keys to initialize the printer allows resetting to the factory default parameters, all interfaces, all emulations, all formats or a complete reset of all parameters.

If the printer was operating before initialization, it may need to be reconfigured for the specific task at hand. Refer to the status page printout and/or formats page printout to reset the printers settings to those used before initialization. (See “Show” in the “Using the Operator’s Menu” section of Chapter 4 for procedures to print the status page and formats page.)

Note

The menu options All Formats, All Interfaces, and All Emulations will reset all previously saved settings (customer defined) to factory defaults. Previously saved formats, interface settings and emulation options cannot be recalled. It is recommended that a status page and format page be printed before performing this option. Use these printouts to re-configure formats, settings, and/or options after resetting to factory defaults.

Control Panel Initialization

Use the following procedures to initialize the printer using the control panel:

Note

If the printer has locked up and the keys on the control panel do not respond, it may be necessary to cycle the power on the printer. Turn the printer off, wait 2-3 minutes, and power the printer back on.

- | | |
|----------------------------------|---|
| Offline
Menu | 1. Press the On Line key to place the printer in an offline state. |
| Main Menu
Maintenance | 2. Press the ▼ (down) menu browse key to access the Main Menu . |
| Maintenance
Reset to Deflts | 3. Press the ◀ (left) or ▶ (right) menu browse key until Maintenance is displayed in the lower right corner of the display window. |
| Reset to Deflts
USA | 4. Press the ▼ (down) arrow to access the Maintenance menu options. Maintenance will be displayed in the upper left corner of the display window and Reset to Deflts will be displayed in the lower right corner. |
| Factory Deflts
All Interfaces | 5. Press the ▼ (down) menu browse key again. USA will be displayed in the lower right corner of the display window. |
| | 6. Press the ◀ (left) or ▶ (right) menu browse key to select a USA or International setting. |
| | 7. Press the ▼ (down) menu browse to access the options under USA or International. |
| | 8. Press the ◀ (left) or ▶ (right) menu browse key to select either, All Interfaces, All Formats, All Emulations, or Complete. |
| | 9. Press the Select key next to the type of reset option desired to reset printer. The printer momentarily displays STARTUP, Loading..... Please Wait then completes the power-up sequence. |

Note

The All Interfaces option will reset all interface settings in the printer to the factory set default values or settings. The All Formats option will reset all previously saved formats in the printer to the factory set default values or settings. The All Emulations option will reset all emulation settings in the printer to factory set default values or settings. The Total Init option will reset the printer to factory set defaults for all interfaces, all previously saved formats, and all emulations.

USING THE MENU CONTROL MENU

The menu control feature restricts/allows access to the other menus: Operator, Setup, and Maintenance. This feature also restricts/allows access to control panel keys: Tear Off, View and Format. This menu is only visible using the following procedure:

- Simultaneously depress the **FF** key and the **↑** key while turning the power on to the printer. The printer will power up as normal.
1. Press the **On Line** key to place the printer in a offline status.
 2. Press the **▼** (down) menu browse key to access the main menu.
 3. Press the **◀** (left) or **▶** (right) menu browse key until **Menu Control** is displayed in the lower right corner of the display window.
 4. Press the **Select** key to access the **Menu Control** options. **Allow Menus** will be displayed in the lower right corner of the display window.
 5. Press the **▼** (down) menu browse key to access the **Allow Menus** options.
 6. Press the **◀** (left) or **▶** (right) menu browse key until the desired menu is displayed in the lower right corner of the display window.
 7. Press the **Select** key to enable or disable the viewing of a menu. The **<** symbol immediately follows an enabled menu.
 8. Cycle the power to the printer. After the power-up sequence is complete, only the enabled menus will be viewable and accessible.

Allow Menus Operator<

Note

If some or all of the menus are locked out, clear the condition by repeating the power cycle while holding down the FF and ↑ (paper move Up Arrow) as discussed previously and enable some or all of the menus.

CHAPTER 4. USING THE OPERATOR MENU



While in **Offline** state, press the ▼ (down) menu browse key until **Operator** menu is displayed in the bottom right corner of the LCD. **Main** will be displayed in the upper left corner of the LCD.

To move up or down a level of menu options, press the ▲ (up) or ▼ (down) menu browse keys. To move laterally among options on the same level, use the ◀ (left) or ▶ (right) menu browse keys.

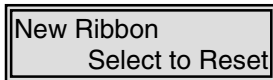
Currently selected (active) menu options are displayed in the LCD with a < symbol, which follows immediately to the right of the menu option. Some menu options are toggle options and reflect an enabled or disabled condition. Press the **Select** key to cause the printer to perform the operation.

Press the **Clear** key to return to the upper level menu or to **Offline** state when in a first-level menu. Pressing the **Clear** key also aborts a menu operation.

NEW RIBBON



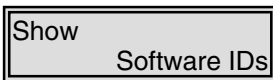
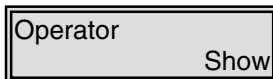
When a new ribbon is placed in the printer, the operator can reset the ribbon counter. This option is only available when Ribbon Monitor is enabled through the Maintenance Menu. (See “Ribbon Monitor” on page 143 in Chapter 6 for procedures.)



1. While in the **Operator** menu, press ▼ (down) to access **Select to Reset**. **New Ribbon** is displayed in the upper left corner of the LCD and **Select to Reset** is displayed in the lower right corner.
2. Press the **Select** key to reset the counter.

SHOW

This menu option allows the operator to view or print various printer settings. See the Operator Menu map in Appendix I for a complete listing of selections available.



1. While in Operator Menu, press the ◀ (left) or ▶ (right) menu browse keys until **Show** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the show options.
3. Press the **Select** key to select a show option. The following describes each selection available.

Software IDs

This option displays the part or version number of the installed software. This is a view only option. When selected, the display will automatically cycle and display information similar to the following display example:

TTMI: 44A105004
Font: 44A100071
CCU: 44A105086
Panl: 44A119255
XXXY: <Revision Number> *

* XXXY: are board identifiers, where XXX is the option board installed, Y is the expansion slot number and <Revision Number> is additional information (i.e. part number if applicable.)

Expansion Slot Information	
Option Board Installed	Board Identifier
Legacy Parallel (Centronics, DP Short, DP Long)	Leg1: or Leg2:
Ethernet (any speed) or Token Ring	Net1: or Net2:
empty or unknown board	Exp1: or Exp2:
IBM front end board	Fep1: or Fep2:

Sample Status Page

Selecting this option will print the current settings of the printer. Press the **Clear** key to stop printing. The following two pages, are a sample printout of the status page, reflecting the factory default settings with standard software installed.

Status Page 5180

Operator

Software IDs

TTMI: 44A105073 (13.X")

Font: 44A100091

CCU: 44A105086

Panl: 44A119255

Exp1: (empty)

Exp2: (empty)

Set Up

Active Format

Format Name DEFAULT

Font Style Data Proces

CharSet/Country USA CP 437 USA ISO

CPI 10

LPI 6

	By IN	By Line/Column	By Decipoint
--	-------	----------------	--------------

Form Length	11.00	66	7920
-------------	-------	----	------

Top Margin	00.00	0	0
------------	-------	---	---

Bottom Margin	00.00	0	0
---------------	-------	---	---

Left Margin	00.00	0	0
-------------	-------	---	---

Right Margin	13.20	132	9504
--------------	-------	-----	------

Top Print Ref	00.00	0	0
---------------	-------	---	---

Left Print Ref	00.00	0	0
----------------	-------	---	---

Horiz Expansion X1

Vert Expansion X1

VertExp Options Default (top)

Print Modifiers

DoubleStrike Disable

Emphasized Disable

Print Options

UpperCase Disable

High Speed Enable

Print Control

Define LF LF = CR + LF

Define CR CR= CR

Define FF FF = CR + FF

Define HT NoTabs = SPACE

VertMove VM = CR + VM

AutoWrap Enable

FF @ TOF Enable

GenPtrOpts

	0	1	2	3
	12345678901234567890123456789012			

Group 1	01100001000100000000000000000000			
---------	----------------------------------	--	--	--

Group 2	00010011001110000000000000000000			
---------	----------------------------------	--	--	--

Slew Rate Normal

Interface MultiSource

Emulation ANSI (4800)

Filter

Parallel (1284)

None

Serial

None

Expansion1

None

Expansion2

None

Horiz Tab

00.80"	01.60"	02.40"	03.20"	04.00"	04.80"
--------	--------	--------	--------	--------	--------

05.60"	06.40"	07.20"	08.00"	08.80"	09.60"
--------	--------	--------	--------	--------	--------

10.40"	11.20"	12.00"	12.80"		
--------	--------	--------	--------	--	--

Vertical Format Vertical Tabs

Vert Tab

None

```

I/f Settings
MultiSource      Delay Seconds      003
Parallel Setup (1284)
  No Fault PO          Disable
  TCP/IP
    IP Address      000.000.000.000
    Netmask         000.000.000.000
    Router IP Addr  000.000.000.000
  Serial Setup RS232
    XON/XOFF
      Ready/Busy      Enable
      ON/OFFline      Enable
      Fault           Enable
      Robust XOFF      Disable
      Robust XON       Disable
    CD(DTR)
      Ready/Busy      Disable
      ON/OFFline      Disable
      Fault           Disable
    CA(RTS)
      Ready/Busy      Disable
      ON/OFFline      Disable
      Fault           Disable
    SCA(SRTS)
      Ready/Busy      Disable
      ON/OFFline      Disable
      Fault           Disable
    ETX/ACK          Disable
    Inhibit Xmit      Disable
    Lead Polarity
      CD(DTR)         High
      CA(RTS)         High
      SCA(SRTS)       High
      CB(CTS)         High
      CC(DSR)         High
    Data Bits        8 Bits
    Parity            No Parity Bit
    Stop Bits         1
    Baud Rate         9600
    Buffer Options     High Trip Pt % 80
Expansion1
  None
Expansion2
  None
Engine Options
  Direction          Bi-directional
  EngineOff Delay     2 seconds
  Print Intensity     Normal
  Tier Select        Auto
    Tier 1 Inactive
    Tier 2 Active
TearOff Options
  Retract            Next TOF
Emul Settings  ANSI (4800)
  0      1      2      3
  12345678901234567890123456789012
Options  00000000010000000000000000000000
Filter Settings
  None
Maintenance
Power On Time  00000:00:00
Print Time     00000:00:00
Memory Usage
  RAM Size     8192 kB
  Code Size    2264 kB
  Heap Used    776 kB
  Free Mem     4747 kB
RibbonMonitor Disable

```

Sample Format Page

Selecting this option will print a description of optional pre-saved format (also known as a form.) Press the **Clear** key to stop printing.

Formats

Active Format

Format Name	DEFAULT		
Font Style	Data Proces		
CharSet/Country	USA CP 437	USA ISO	
CPI	10		
LPI	6		
	By IN	By Line/Column	By Decipoint
Form Length	11.00	66	7920
Top Margin	00.00	0	0
Bottom Margin	11.00	66	7920
Left Margin	00.00	0	0
Right Margin	13.20	132	9504
Top Print Ref	00.00	0	0
Left Print Ref	00.00	0	0
Horiz Expansion	X1		
Vert Expansion	X1		
VertExp Options	Default (top)		
Print Modifiers			
DoubleStrike	Disable		
Emphasized	Disable		
Print Options			
UpperCase	Disable		
High Speed	Enable		
Print Control			
Define LF	LF = CR + LF		
Define CR	CR = CR		
Define FF	FF = CR + FF		
Define HT	NoTabs = SPACE		
VertMove	VM = CR + VM		
AutoWrap	Enable		
FF @ TOF	Enable		
GenPtrOpts			
	0	1	2
	12345678901234567890123456789012		
Group 1	01100001000100000000000000000000		
Group 2	00010011001110000000000000000000		

Slew Rate Normal

Stored Formats

Format Name	DEFAULT		
Font Style	Data Proces		
CharSet/Country	USA CP 437	USA ISO	
CPI	10		
LPI	6		
	By IN	By Line/Column	By Decipoint
Form Length	11.00	66	7920
Top Margin	00.00	0	0
Bottom Margin	11.00	66	7920
Left Margin	00.00	0	0
Right Margin	13.20	132	9504
Top Print Ref	00.00	0	0
Left Print Ref	00.00	0	0
Horiz Expansion	X1		
Vert Expansion	X1		
VertExp Options	Default (top)		
Print Modifiers			
Doublestrike	Disable		
Emphasized	Disable		
Print Options			
UpperCase	Disable		
High Speed	Enable		
Print Control			
Define LF	LF = CR + LF		
Define CR	CR= CR		

Sample Code Page

Selecting this option will print an example of the currently selected code page/country character table. Press the **Clear** key to stop printing. See Figure 4-1.

Country	USA ISO																									
Code Page	USA CP 437																									
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F										
0	@	#	\$	%	&	'	(	)	*	+	=	>	<	~	^	_										
1	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F										
2	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F										
3	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F										
4	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F										
5	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F										
6	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F										
7	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F										
8	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F										
9	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F										
A	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F										
B	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F										
C	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F										
D	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F										
E	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F										
F	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F										

FIGURE 4-1 SAMPLE CODE PAGE

Sample Font Page

Selecting this option prints the current font package included in the printer software. The Font Page printout is meant to compliment the Status Page printout. This report is for reference purposes only, it reflects the fonts included in the Font part number, which is identified under Software IDs on the Status Page printout. It does not reflect selections or settings, either default or customer-defined. Press the **Clear** key to stop printing. The following is an example of the font page printout.

Font Page	5180		
Font Package:	44A100091		
Font List	Alignment	ALN:10	66
	Courier NLQ	CON:10	1000
		CON:13	1000
	Correspond	CRE:10	1000
		CRE:13	1000
	Data Proces	GCD:10	1000
		GCD:13	1000
		GCD:16	1000
	Gothic NLQ	GCN:10	1000
		GCN:13	1000
		GCN:16	1000
	High Speed 2	HSD:10	1000
	High Speed	THD:10	1000
		HSD:16	1000
	Italic NLQ	ITN:10	1000
	Graphics	LGD:10	1000
		LGD:13	1000
		LGD:16	1000
	OCR-A	OAN:10	1000
	OCR-B	OBN:10	1000
	CanadianPst	ORN:16	1000

Number of Maps: 130

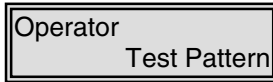
Maps (Overlay):

USA ISO	Germany	French A ISO	French B ISO	Canadian
Dutch	Italian	UK ISO	Spanish	Dan/Nor A
Dan/Nor B	Dan/Nor C	Dan/Nor D	Swed/Fin A	Swed/Fin B
Swed/Fin C	Swed/Fin D	Swiss	Slo/Croat	UK A
Turkish	Greek	Italian ISO	Spanish ISO	FX: USA
FX: France	FX: Germany	FX: UK	FX: Denmark I	FX: Denmark II
FX: Italy	FX: Spain I	FX: Japan	FX: Norway	FX: Denmark II
FX: Spain II	FX: Latin Amer	FX: Netherland	FX: Angl-Unvrs	FX: SpanAmer
FX: Portugal	FX: Africa	FX: Switzerland	FX: Turkey	FX: Greece
FX: Slo/Croat	Legal	Korea	None	Download Map

Maps (Code Page):

RevQuest	USA CP 437	Multi CP 850	Code Page 852	Code Page 853
Code Page 855	Code Page 858	Code Page 860	Code Page 863	Code Page 864
Code Page 865	Code Page 866	Code Page 867	Greek CP 437	Dec MultiNtnl
Roman 8	Mazowia CP	Turkish CP	Greek CP 851	Kamen
ISO-8859-1	ISO-8859-2	ISO-8859-3	ISO-8859-4	ISO-8859-5
ISO-8859-6	ISO-8859-7	ISO-8859-8	ISO-8859-9	ISO-8859-15
Code Page 864E	Greek CP869	ELOT 928	Dec Supp	Dec Tech
Dec Spec1Graph	Dec ISO-Latin 1	Dec British	Dec Finnish	Dec French
Dec FrCanadian	Dec German	Dec ISO Italian	Dec JIS Roman	Dec Nor/Dan
Dec Spanish	Dec Swedish	Dec ISO Nor/Dan	Dec Dutch	Dec Swiss
Dec Portuguese	Dec Legal	Dec Hebrew	Dec Hebrew Supp	Dec ISO Lat/Heb
Dec Katakana	Dec ANSI	ISO Latin 2	ISO Latin 5	Greek Supp
Turkish 7-Bit	Turkish 8-Bit	ISO/Lat/Gr Supp	ISO Lat/Cy Supp	PC437 Greek
PC861 Icelandic	PC869 Greek	USSR (GOST)	BRASCII	ABICOMP
PC857 (Turkish)	ISO Latin 1T	Bulgaria	Code MJK (CSFR)	Estonia
PC774 Lithuania	PC866 LAT	ECMA-94-1 Mult	KU 42(KU Thai)	TIS 11(TS 988)
TIS 13 (IBM Std)	TIS 16 (SIC Old)	TIS 17 (SIC STD)	TIS 18 (General)	HP3000 Greek
DEC Greek	Farsi A	Farsi B	Farsi C	

TEST PATTERN



Selecting this option will print a test pattern until the operator presses the **Clear** key to stop. This option can be used to verify printing occurs at the top of form. See “Test Pattern Printing” in Chapter 2 for additional information.

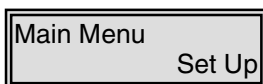
DISCARD JOB

This menu option is used to clear the printer’s buffer.

1. While in the **Operator** menu, press the ◀ (left) or ▶ (right) menu browse key until **Discard Job** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to discard the job (clear the buffer) in the printer.

CHAPTER 5. USING THE SET UP MENU

The Set Up menu allows the operator to modify or create stored formats. The Set Up menu also allows the operator to set default settings for Horiz Tab, Vertical Format, Interface Settings, Engine Options, Print Control, GenPtrOpts (General Printer Options), TearOff, Emulation, Display Lang (Display Language) and Filter. See Appendix I for the complete Set Up Menu Map.



While in the **Offline** state, press the ▼ (down) menu browse key until **Set Up** menu is displayed in the bottom right corner of the LCD. **Main Menu** will be displayed in the upper left corner of the LCD.

To move up or down a level of menu options, press the ▲ (up) or ▼ (down) menu browse keys. To move laterally among options on the same level, use the ◀ (left) or ▶ (right) menu browse keys.

Currently selected menu options are displayed in the LCD with a < symbol, which follows immediately to the right of the menu option. Some menu options are toggle options and reflect an enabled or disabled condition. Press the **Select** key to cause the printer to perform this operation.

Press the **Clear** key to return to the upper level menu or to **Offline** when in a first-level menu.

FORMAT

This menu option allows the operator to change or create and store format settings for the printer. (See Set Up menu map in Appendix I for available selections.)

There are two steps to changing or creating a stored format.

1. **Modify the format.** (See “Modify Format” for procedures and menu options.)
2. **Save the format.** (See “Save Format” for procedures and menu options.)

Modify Format

This menu option allows the operator to modify a format.



1. While in Format menu, press ◀ (left) or ▶ (right) until **Modify Format** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Modify Format** options.

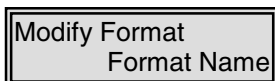
The following describes each of the selections available.

Format Name

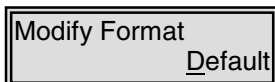
This menu option allows the operator to change the selected format name. The LCD will display the format selected from the control panel using the **Format** key. If no previously saved format name exists, the format will be displayed as **Default**.

Note

Use unique format names when creating or modifying a format.



1. While in **Modify Format** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Format Name** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to select a Format Name option. Notice the cursor (underline) beneath the currently selected character to be changed.



3. In **Format Name**, the display switches to a mode where the operator may enter any alphanumeric character. The four menu browse keys revert to data entry operation. The horizontal ◀ ▶ (left or right) keys position the cursor (underline) to the digit to be changed; the vertical ▲ ▼ (up or down) keys increment/decrement the selected digit by one. Alphanumeric characters will display in place of the underlined digit sequentially.
4. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD. Pressing the **Clear** key does not erase the values entered, but does allow the user to exit the User Set menu.

Note

Repeat this section if further changes are necessary.

Font Style

This menu option is used to select the font style. (See Set Up Menu Map in Appendix I for available selections.)

Modify Format
Font Style

1. While in **Modify Format** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Font Style** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the Font Style options.
3. Press the ◀ (left) or ▶ (right) menu browse keys until the font style desired is displayed in the lower right corner of the LCD.
4. Press the **Select** key to select a Font Style option. The < symbol will now immediately follow the saved Font Style option.

Code Page/Country

The character map consists of 256 characters (0X00 – 00XFF). Using the Code Page (0X80-0XFF) and Country (00-7F) options allows the operator to select the upper and lower ends of the character maps respectively. Under Code Page/Country, there are two sub-menus, Code Page and Country. (See Operator Menu Map in Appendix I for selections available.)

COUNTRY										CODE PAGE									
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F			
0	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F			
1	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F			
2	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F			
3	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F			
4	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F			
5	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F			
6	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F			
7	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F			
8	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F			
9	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F			
A	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F			
B	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F			
C	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F			
D	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F			
E	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F			
F	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F			

Code Page

This menu allows selection of the characters 0X80 to 0XFF of the character map.

When using the Proprinter emulation, international character sets must be selected using escape sequences from the host. See *Programmer's Manual* for more information on international character sets and character charts.

- | |
|------------------------------------|
| Modify Format
Code Page/Country |
|------------------------------------|
- | |
|--------------------------------|
| Code Page/Country
Code Page |
|--------------------------------|
- | |
|--------------------------|
| Code Page
USA CP 437< |
|--------------------------|
1. While in **Modify Format** Menu, press the ◀ (left) or ▶ (right) menu browse keys until **Code Page/Country** is displayed in the lower right corner of the LCD.
 2. Press the ▼ (down) menu browse key to access the code page sub-menu.
 3. Press the ◀ (left) or ▶ (right) menu browse key until **Code Page** is displayed in the lower right corner of the LCD.
 4. Press the ▼ (down) menu browse key to access the character set options. **Code Page** will be displayed in the upper left corner of the LCD.
 5. Press the ◀ (left) or ▶ (right) menu browse keys until the character set desired is displayed in the lower right corner of the LCD.
 6. Press the **Select** key to select the code page. The < symbol will now immediately follow the currently selected code page.

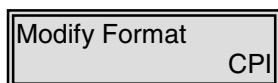
Country

This menu allows selection of the characters 0X00 to 0X7F of the character map.

- | |
|------------------------------------|
| Modify Format
Code Page/Country |
|------------------------------------|
- | |
|------------------------------|
| Code Page/Country
Country |
|------------------------------|
- | |
|---------------------|
| Country
USA ISO< |
|---------------------|
1. While in **Modify Format** Menu, press the ◀ (left) or ▶ (right) menu browse keys until **Code Page/Country** is displayed in the lower right corner of the LCD.
 2. Press the ▼ (down) menu browse key to access the country sub-menu.
 3. Press the ◀ (left) or ▶ (right) menu browse key until **Country** is displayed in the lower right corner of the LCD.
 4. Press the ▼ (down) menu browse key to access the country options. **Country** will be displayed in the upper left corner of the LCD.
 5. Press the ◀ (left) or ▶ (right) menu browse keys until the country desired is displayed in the lower right corner of the LCD.
 6. Press the **Select** key to select the country. The < symbol will now immediately follow the currently selected country.

CPI

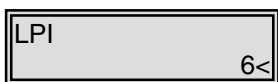
This menu option is used to select the characters per inch (CPI.) (See Set Up Menu Map for available selections.)



3. While in **Modify Format** menu, press the ◀ (left) or ▶ (right) menu browse keys until **CPI** is displayed in the lower right corner of the LCD.
4. Press the ▼ (down) menu browse key to access the CPI options.
5. Press the ◀ (left) or ▶ (right) menu browse key until the desired CPI setting is displayed in the lower right corner of the LCD.
6. Press the **Select** key to select the CPI option. The < symbol will now immediately follow the saved CPI option. To configure a unique CPI setting, select **User Set**. Notice the cursor (underline) is now shown under the first digit. The four menu browse keys revert to data entry operation. The horizontal ◀ ▶ (left or right) keys position the cursor (underline) to the digit to be changed; the vertical ▲ ▼ (up or down) keys increment/decrement the selected digit by one.
7. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD. Pressing the **Clear** key does not erase the values entered, but does allow the user to exit the User Set menu.

LPI

This menu is used to select the lines per inch (LPI) (See Set Up Menu Map for available selections.)



1. While in **Modify Format** menu, press the ◀ (left) or ▶ (right) menu browse keys until **LPI** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **LPI** options.
3. Press the ◀ (left) or ▶ (right) menu browse key, until the desired **LPI** setting is displayed in the LCD.
4. Press the **Select** key to select the LPI option. The < symbol will now immediately follow the saved LPI option. To configure a unique CPI setting, select **User Set**. Notice the cursor (underline) is now shown under the first digit. The four menu browse keys revert to data entry operation. The horizontal ◀ ▶ (left or right) keys position the cursor (underline) to the digit to be changed; the vertical ▲ ▼ (up or down) keys increment/decrement the selected digit by one.
5. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD. Pressing the **Clear** key does not erase the values entered, but does allow the user to exit the User Set menu.

Form Length

This menu option is used to set the form length. The form length may be set By Lines (6 LPI) or By Lines (8 LPI).

Modify Format
Form Length

Form Length
By Lines (6LPI)

Form Length
006

Form Length
006

1. While in **Modify Format** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Form Length** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Form Length** options. **Form Length** will be displayed in upper left corner of LCD.
3. Press ◀ (left) or ▶ (right) menu browse key and select **By Lines** (6 LPI) or **By Lines (8 LPI)**. Press the **Select** key to select one of these options. The current setting is displayed in the lower right corner of the LCD.
4. Press the **Select** key again to modify the setting. Notice the cursor (underline) is now shown under the first digit. The four menu browse keys revert to data entry operation. The horizontal ◀ ▶ (left or right) keys position the cursor (underline) to the digit to be changed; the vertical ▲ ▼ (up or down) keys increment/decrement the selected digit by one.
5. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD. Pressing the **Clear** key does not erase the values entered, but does allow the user to exit the User Set menu.

Note

Repeat this section if further changes are necessary.

Left Margin

This menu option is used to set the left margin. The left margin may be set By Inches or By Column.

Modify Format Left Margin

Left Margin By IN
Left Margin IN 00.0

Bottom Mar IN 00.0

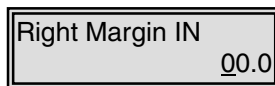
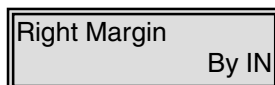
1. While in **Modify Format** menu, the ◀ (left) or ▶ (right) menu browse key until **Left Margin** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Left Margin** options. **Left Margin** will be displayed in upper left corner of LCD.
3. Press ◀ (left) or ▶ (right) menu browse key and select **By IN** or **By Column**. Press the **Select** key to select one of these options. The current setting is displayed in the lower right corner of the LCD.
4. Press the **Select** key again to modify the setting. Notice the cursor (underline) is now shown under the first digit. The four menu browse keys revert to data entry operation. The horizontal ◀ ▶ (left or right) keys position the cursor (underline) to the digit to be changed; the vertical ▲ ▼ (up or down) keys increment/decrement the selected digit by one.
5. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD. Pressing the **Clear** key does not erase the values entered, but does allow the user to exit the User Set menu.

Note

Repeat this section if further changes are necessary.

Right Margin

This menu option is used to set the right margin. The right margin may be set By Inches or By Column.



1. While in **Modify Format** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Right Margin** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Right Margin** options. **Right Margin** will be displayed in upper left corner of LCD.
3. Press ◀ (left) or ▶ (right) menu browse key and select **By IN** or **By Column**. Press the **Select** key to select one of these options. The current setting is displayed in the lower right corner of the LCD.
4. Press the **Select** key again to modify the setting. Notice the cursor (underline) is now shown under the first digit. The four menu browse keys revert to data entry operation. The horizontal ◀ ▶ (left or right) keys position the cursor (underline) to the digit to be changed; the vertical ▲ ▼ (up or down) keys increment/decrement the selected digit by one.
5. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD. Pressing the **Clear** key does not erase the values entered, but does allow the user to exit the User Set menu.

Note

Repeat this section if further changes are necessary.

Top Print Ref

This menu option is used to set the top print ref. The top print ref may be set By Inches.

Modify Format
Top Print Ref

Top Print Ref
By IN

Top Print Ref IN
00.0

1. While in Modify Format menu, press the ◀ (left) or ▶ (right) menu browse keys until **Top Print Ref** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Top Print Ref** options. **Top Print Ref** will be displayed in upper left corner of LCD.
3. Press the **Select** key again to modify the setting. Notice the cursor (underline) is now shown under the first digit. The four menu browse keys revert to data entry operation. The horizontal ◀ ▶ (left or right) keys position the cursor (underline) under the digit to be changed; the vertical ▲ ▼ (up or down) keys increment/decrement the selected digit by one.
4. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD. Pressing the **Clear** key does not erase the values entered, but does allow the user to exit the User Set menu.

Note

Repeat this section if further changes are necessary.

Left Print Ref

This menu option is used to set the left print ref. The left print ref may be set By Inches or By Column.

Use the following procedures for setting the left print ref:

Modify Format
Left Print Ref

Left Print Ref
By IN

Left Print Ref IN
00.0

Left Print Ref IN
00.0

1. While in **Modify Format** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Left Print Ref** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Left Print Ref** options. **Left Print Ref** will be displayed in upper left corner of LCD.
3. Press ◀ (left) or ▶ (right) menu browse key and select **By IN** or **By Column**. Press the **Select** key to select one of these options. The current setting is displayed in the lower right corner of the LCD.
4. Press the **Select** key again to modify the setting. Notice the cursor (underline) is now shown under the first digit. The four menu browse keys revert to data entry operation. The horizontal ◀ ▶ (left or right) keys position the cursor (underline) to the digit to be changed; the vertical ▲ ▼ (up or down) keys increment/decrement the selected digit by one.
5. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD. Pressing the **Clear** key does not erase the values entered, but does allow the user to exit the User Set menu.

Note

Repeat this section if further changes are necessary.

Horiz Expansion

This menu is used to expand the currently selected font style horizontally from 1 to 8 times normal width. (This is not the same as expanded character printing with the oversize character font.) See examples of options below.

X1
X2
X3
X4
X5
X6
X7
X8



Modify Format
Horiz Expansion

Horiz Expansion
X1<

1. While in **Modify Format** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Horiz Expansion** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Horiz Expansion** options. **Horiz Expansion** will now be displayed in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired selection is displayed.
4. Press the **Select** key to select the horizontal expansion option. The < symbol will now immediately follow the saved horizontal expansion option.

Vert Expansion

This menu is used to expand the currently selected font style vertically from 1 to 8 times normal height. (This is not the same as expanded character printing with the oversize character font.) See examples of options below.

X1	x1	X2	X3	X4	X5	X6	X7	X8
X2								
X3								
X4								
X5								
X6								
X7								
X8								

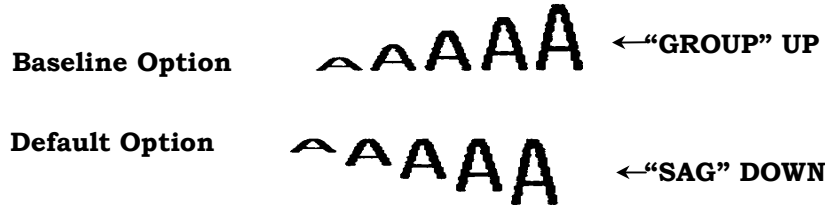
Modify Format Vert Expansion

Vert Expansion X1<

1. While in **Modify Format** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Vert Expansion** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Vert Expansion** options. **Vert Expansion** will now be displayed in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired selection is displayed.
4. Press the **Select** key to select the vertical expansion option. The < symbol will now immediately follow the saved horizontal expansion option.

VertExp Options

This menu is used to control how the expanded characters will appear. (See Set Up Menu Map in Appendix I for available selections.) Although all expanded characters are printed from the top down, the positioning on the page will make them appear to “group” up or “sag” down when compared to normally printed characters on the same line. See examples below.



Modify Format
VertExp Options

VertExp Options
Default (top)<

1. While in **Modify Format** menu, press the ◀ (left) or ▶ (right) menu browse keys until **VertExp Options** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **VertExp Options** options. **VertExp Options** will now be displayed in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired selection is displayed.
4. Press the **Select** key to select a VertExp Options option. The < symbol will now immediately follow the saved VertExp Options option.

Print Modifiers

This menu is used to select font enhancements.

Option	Meaning
DoubleStrike	Printer will print each text character twice by double striking each dot directly without offset.
Emphasized	Printer will print the dots in each character twice with the second strike having a slight horizontal offset.

Modify Format
Print Modifiers

Print Modifiers
Emphasized

1. While in **Modify Format** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Print Modifiers** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Print Modifiers** options. **Print Modifiers** will now be displayed in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired selection is displayed.
4. Press the **Select** key to select the Print Modifier option. The < symbol will now immediately follow the saved Print Modifier option.

Print Options

This menu is also used to select font enhancements.

Option	Meaning
High Speed	When enabled, this causes any Emulation selection of the high speed font type to be the “tall” high speed font (3/144” vertical between dot rows) type. If disabled, the “short” high speed font (1/72” vertical between dot rows) type is used. Emulation selection of the high speed font varies within the emulation. See the <i>Programmer’s Manual</i> for additional information.
UpperCase	If this option is enabled, the printer will print all received characters “a” (0X61) to “z” (0X7A) to be printed as uppercase “A” (0X41) to “Z” (0X5A).

Note

From the menu, either High Speed (“Tall” High Speed) or High Speed 2 (“Short” High Speed) may be selected from the Font menu options regardless of the Emulation. However, an emulation selection of high speed via escape sequences within an emulation will override the menu selection.

Modify Format
Print Options

Print Options
High Speed<

1. While in **Modify Format** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Print Options** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Print Options** options. **Print Options** will now be displayed in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired selection is displayed.
4. Press the **Select** key to select the Print Options option. The < symbol will now immediately follow the saved Print Options option.

Print Control

This menu and its sub-menus are used to set printer response to line termination and certain positioning commands sent by the host system.



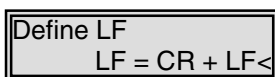
1. While in the **Set Up** menu, press the ◀ (left) or ▶ (right) menu browse key until **Print Control** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Print Control** sub-menus.

The following describes the sub-menus and options available:

Define LF

This menu is used to define the action of the printer upon receiving a line feed character.

1. While in the **Print Control** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Define LF** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Define LF** options.



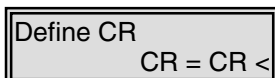
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Define CR

This menu is used to define the action of the printer upon receiving a carriage return character.



1. While in the **Print Control** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Define CR** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Define CR** options.



3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Define FF

This menu is used to define the action of the printer, upon receiving a form feed character.



1. While in the **Print Control** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Define FF** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the Define FF options.



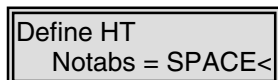
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Define HT

This menu is used to define the action of the printer upon receiving a horizontal tab character.



1. While in the **Print Control** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Define HT** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Define HT** options.



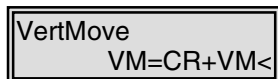
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

VertMove

This menu is used to define the vertical movement behavior for the printer.



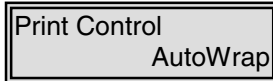
1. While in the **Print Control** menu, press the ◀ (left) or ▶ (right) menu browse keys until **VertMove** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **VertMove** options.



3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

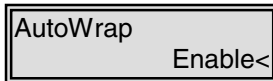
AutoWrap

This menu is used to enable/disable the auto wrapping option for the printer. If set to enable, autowrapping will occur at the right margin. If this option is disabled, no auto wrap will occur and data will be truncated.



1. While in the **Print Control** menu, press the ◀ (left) or ▶ (right) menu browse keys until **AutoWrap** is displayed in the lower right corner of the LCD.

2. Press the ▼ (down) menu browse key to access the **AutoWrap** options.



3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

FF @ TOF

This menu is used to define form feed with top of form behavior for the printer. If enabled, the printer will ignore a form feed character, if the printer is already at the top of form.



1. While in the **Print Control** menu, press the ◀ (left) or ▶ (right) menu browse keys until **FF @ TOF** is displayed in the lower right corner of the LCD.

2. Press the ▼ (down) menu browse key to access the **FF @ TOF** options.



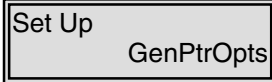
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

GENPTROPTS

This menu is used to set general printer options. See the General Printer Options, Group 1 and Group 2 on pages **179** and **180** in Appendix G for additional information.

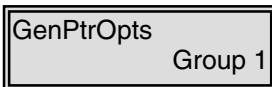
Note

To print the Euro currency symbol, see the General Printer Options, Group 1 and Group 2 on pages 179 and 180 in Appendix G for settings.



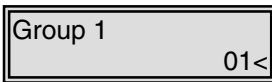
1. While in the **Set Up** menu, press ◀ (left) or ▶ (right) menu browse key until **GenPtrOpts** is displayed in the lower right corner of the LCD.

2. Press the ▼ (down) menu browse key to access the **GenPtrOpts** options.



3. Press the ◀ (left) or ▶ (right) menu browse key until the desired **Group 1** or **Group 2** is displayed.

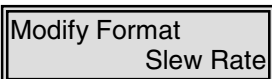
4. Press the **Select** key to select **Group 1** or **Group 2**.



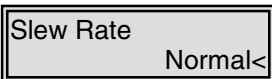
5. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to either enable or disable an option. The < symbol will immediately follow an enabled option.

Slew Rate

This menu is used to set the speed at which paper can be moved through the printer during printing operations (form feeds, vertical moves, etc.) The reduced slew speed can be useful if the printer is experiencing trouble with heavy stock or stiff multi-part forms. Using the reduced slew speed will reduce throughput.



1. While in **Modify Format** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Slew Rate** is displayed in the lower right corner of the LCD.



2. Press the ▼ (down) menu browse key to access the **Slew Rate** options. **Slew Rate** will now be displayed in the upper left corner of the LCD.

3. Press the ◀ (left) or ▶ (right) menu browse key until the desired selection is displayed.

4. Press the **Select** key to select the Slew Rate option. The < symbol will now immediately follow the saved Slew Rate option.

Save Format

This is the final step used to modify or create a stored format. (See “Format” for additional information.) This menu is used to save the format settings created after selecting and modifying a format. When saving a format, the operator is given the choice to save the format to the active (the format chosen from the control panel) or as a blank format, if available. There are ten possible customer-defined format slots available. It is recommended that each customer-defined format be saved with a unique name.

Note

Print a Format Page printout and save for future reference or in the event a format(s) needs to be re-configured. See “Show” in Chapter 4, page 41, for instructions to print a Format Page.



1. While in **Format** menu, press the ◀ (left) to ▶ (right) menu browse key until **Save Format** appears in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key. **Save Format** will appear in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired format is listed. If no previously saved format name exists, the default format names are **Default** through **Blank Format 1 ... 9**.
4. Press the **Select** key to select the format slot. Choosing a blank format will immediately display the format name modified under Format Name.
5. Press the **Select** key to confirm this format name. Press the **Clear** key to exit this option.

SELECT I/F

The Select I/F menu allows the operator to select a specific type of interface the printer will be using. The factory default setting is multisource, which activates all interfaces. The multisource setting is sufficient for most applications. (See the Operator Menu Map in Appendix I for available selections.)

Note

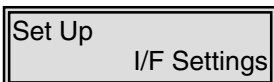
Multiple interfaces can be selected. For example, Serial and Parallel interfaces can be active at the same time. If a selection other than Multisource is selected, the Multisource interface is unselected. If Multisource is selected, all other interfaces are automatically unselected.



1. While in **Set Up** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Select I/F** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the interface options.
3. Press the ◀ (left) or ▶ (right) menu browse keys until the interface type desired is displayed in the lower right corner of the LCD.
4. Press the **Select** key to select an interface type. The < symbol will now immediately follow the saved interface type.

I/F SETTINGS

This menu and its sub-menus are used to setup the printer's interface options and the serial interface parameters. See the Set Up Menu Map in Appendix I for available selections.



1. While in the **Set Up** menu, press the ◀ (left) or ▶ (right) menu browse key until **I/F Settings** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the sub-menu options. **I/F Settings** will be displayed in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired interface is displayed. Press the **Select** key to select **MultiSource**, **Parallel Setup**, **Serial Setup**, **Expansion 1**, or **Expansion 2**.

The following describes the selections available.

MultiSource

This sub-menu is used to select the multiple interface option. In multisource mode, all available interfaces are enabled. If received data stops on the currently active port, the next port is checked for received data after the “Delay Seconds” time has elapsed and no more data has been received from the last port that received data.

I/F Settings
MultiSource

Delay Seconds
006

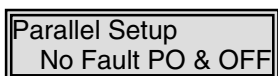
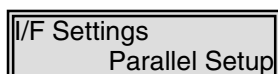
1. While in the **I/F Settings** menu, press the ◀ (left) or ▶ (right) menu browse key until **MultiSource** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to select **MultiSource**. **Delay Seconds** will be displayed in the upper left corner of the display and the current setting will be displayed in the lower right corner of the display. Notice the cursor (underline) is now shown under the first digit and the default number is 000. The four menu browse keys revert to data entry operation. The horizontal ◀ ▶ (left or right) keys position the cursor (underline) under the digit to be changed; the vertical ▲ ▼ (up or down) menu browse keys increment/decrement the selected digit by one.
3. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD. The valid range of values for this option is 006 to 030. Pressing the **Clear** key does not erase the values entered, but does allow the user to exit the User Set menu.

Note

Repeat this section if further changes are necessary.

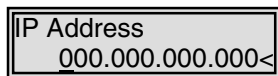
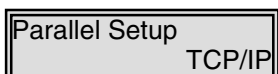
Parallel Setup

This menu option is used to configure the parallel interface only. The option **No Fault PO & Off**, under this menu may be enabled or disabled. In the default condition (disabled), the parallel fault lead will be set to true for either of the two conditions, paper out or if in the offline condition. If enabled, the parallel fault lead will *not* be set to true for either (or both) of the conditions, paper out and/or offline. The TCP/IP options is a compatibility option for Genicom 4810/4840 printers. The IP Address, Netmask and Router IP Address of Genicom models 98-205-153 and 98-305-153 NIC print servers may be programmed via the control panel menu using the IEEE1284 parallel interface. This feature is restricted to these specific Genicom model ethernet print servers and as such utilizes a proprietary Genicom protocol that differs from the bi-directional 1284 protocol specifications.



1. While in the **I/F Settings** menu, press the ◀ (left) or ▶ (right) menu browse key until **Parallel Setup** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to select **Parallel Setup**. **Parallel Setup** will be displayed in the upper left corner of the display and the current setting will be displayed in the lower right corner of the display.
3. Press the **Select** key to enable or disable the setting. The < symbol will now immediately follow the enabled setting.

To set the IP Address, or Router IP Address, use the following procedures:



1. While in the **Parallel Setup** options, press the ◀ (left) or ▶ (right) menu browse keys until **TCP/IP** is displayed in the lower right corner of the LCD.
2. Press the **Select** key. **TCP/IP** will be displayed in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse keys until **IP Address**, **Netmask** or **Router IP Addr** is displayed in the lower right corner of the LCD. (The example to the left is for the IP Address setting.)
4. Press the **Select** key. Notice the cursor (underline) is now shown under the first digit. The horizontal ◀ ▶ (left or right) menu browse keys position the cursor (underline) under the digit to be changed; the vertical ▲ ▼ (up or down) increment/decrement the selected digit by one.
5. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD. Pressing the **Clear** key does not erase the values entered, but does allow the user to exit the User Set menu.

Note

Repeat this section if further changes are necessary. Cycle power after entries to activate changes.

Serial

This menu option is used to configure the serial interface. See the Set Up Menu Map in Appendix I for a complete view of selections and/or submenus available.

Use the following procedure to select the Serial option:

- While in the **I/F Settings** menu, press the ◀ (left) or ▶ (right) menu browse key until **Serial** is displayed in the lower right corner of the LCD.

The following describes the selections available.

Serial Type

This menu is used to select the serial interface type, RS232C or RS422.

Note

The Serial Type selected determines which menu items appear under the Serial Setup menu.

I/F Settings
Serial Type

Serial Type
RS232C <

1. While in the **I/F Settings** menu, press the ▼ (down) menu browse key. **Serial Type** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Serial Type** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired setting is displayed in the lower right corner of the display.
4. Press the **Select** key to enable a setting or disable a setting. The < symbol will now immediately follow the selected setting.

Serial Setup

This menu, its sub-menus, and options are used to change settings for the serial interface. See the Set Up Menu Map in Appendix I for a complete listing of available selections.

Note

The Serial Type selected determines which menu items appear under the Serial Setup menu.



1. While in the **I/F Settings** menu, press the ▼ (down) menu browse key. **Serial Setup** will be displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Serial Setup** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired setting is displayed in the lower right corner of the LCD. Press the ▼ (down) menu browse or **Select** key to access the **Serial Setup** sub-menus.

The following describes the selections available.

Protocol

This sub-menu is used to select protocol settings for the serial interface (both RS232 and RS422). See Set Up Menu Map on page **200** in Appendix I for a complete listing of available selections.



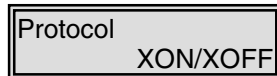
1. While in the **Serial Setup** menu, press the ▼ (down) menu browse key until **Protocol** is displayed in the lower right corner of the display menu.
2. Press the ▼ (down) menu browse key. **Protocol** will be displayed in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired protocol sub-menu selection is displayed in the lower right corner of the LCD.

The following describes the selections available.

XON/XOFF

This option is used to configure the XON/XOFF (also known as DC1/DC3) settings for both RS232 and RS422 serial type.

Option	Meaning
Ready/Busy	XOFF is transmitted to the host by the printer when the print is unable to receive more data. XON is transmitted to the host by the printer when the printer is ready to receive more data.
ON/OFFline	XOFF is transmitted by the printer when it goes offline and XON is transmitted by the printer when it goes online.
Fault	XOFF is transmitted by the printer when a fault is detected. XON is transmitted by the printer when the fault has been cleared.
Robust XOFF	Printer sends XOFF signal every 20 characters until host stops sending and buffer is consumed to below the high trip point.
Robust XON	Printer sends XON every 3 seconds while ONLINE, idle, and no faults.

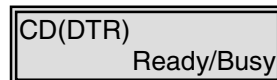
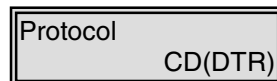


1. While in the **Protocol** menu, press the ◀ (left) or ▶ (right) menu browse key until the **XON/XOFF** option is displayed.
2. Press the ▼ (down) menu browse key to access the XON/XOFF options.
3. Press the ◀ (left) or ▶ (right) menu browse keys until the desired XON/XOFF option is displayed in the LCD.
4. Press the **Select** key to enable or disable the setting. The < symbol will now immediately follow the selected (saved) setting.

CD(DTR)

This option is used to configure CD(DTR) settings for RS232 serial type. This is also known as Data Terminal Ready.

Option	Meaning
Ready/Busy	DTR signal is used to reflect if the printer is ready (able to receive data) or busy (currently unable to receive data.)
ON/OFFline	DTR signal is used to reflect the printer is online or offline.
Fault	DTR signal is used to reflect whether a fault condition exists.

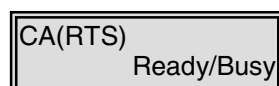
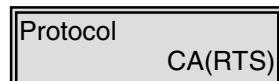


1. While in the **Protocol** menu, press the ◀ (left) or ▶ (right) menu browse key until the **CD(DTR)** option is displayed.
2. Press the ▼ (down) menu browse key to access the CD(DTR) options.
3. Press the ◀ (left) or ▶ (right) menu browse keys until the desired CD(DTR) option is displayed in the LCD.
4. Press the **Select** key to enable or disable an option. The < symbol will now immediately follow the enabled setting.

CA(RTS)

This option is used to configure CA(RTS) settings for RS232 serial type. This is also known as Request to Send.

Option	Meaning
Ready/Busy	RTS signal is used to reflect if the printer is ready (able to receive data) or busy (currently unable to receive data.)
ON/OFFline	RTS signal is used to reflect the printer is online or offline.
Fault	RTS signal is used to reflect whether a fault condition exists.

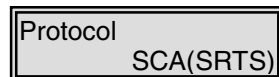


1. While in the **Protocol** menu, press the ◀ (left) or ▶ (right) menu browse key until the **CA(RTS)** option is displayed.
2. Press the ▼ (down) menu browse key to access the CA(RTS) options.
3. Press the ◀ (left) or ▶ (right) menu browse keys until the desired CA(RTS) option is displayed in the LCD.
4. Press the **Select** key to enable or disable an option. The < symbol will now immediately follow the enabled option.

SCA(SRTS)

This option is used to configure the SCA(SRTS) settings RS232 serial type. This is also known as Secondary Request to Send.

Option	Meaning
Ready/Busy	STRS signal is used to reflect if the printer is ready (able to receive data) or busy (currently unable to receive data.)
ON/OFFline	SRTS signal is used to reflect the printer is online or offline.
Fault	SRTS signal is used to reflect whether a fault condition exists.



1. While in the **Protocol** menu, press the ◀ (left) or ▶ (right) menu browse key until the **SCA(SRTS)** option is displayed.
2. Press the ▼ (down) menu browse key to access the SCA(SRTS) options.
3. Press the ◀ (left) or ▶ (right) menu browse keys until the desired SCA(SRTS) option is displayed in the LCD.
4. Press the **Select** key to enable or disable an option. The < symbol will now immediately follow the enabled option.

ETX/ACK

This option is used to configure the ETX/ACK (End of Text/Acknowledge) settings for RS232 serial type. ETX/ACK is a serial validity check protocol, where the host appends the ETX (end of text) code (0X03) at the end of each data block and waits to receive an acknowledge character (ACK=0X06) from the printer, within some time period, prior to sending the next block of data. This is not an ETX/ACK/NAK protocol. The printer never responds with a NAK (0X15) even if errors are detected.

Option	Meaning
Disable	The ETX is ignored and no further action is taken (it is treated as just another data character.)
Immediate	The printer controller immediately replies to an ETX with an ACK.
On Prn Complete	The printer waits until the data block has been printed prior to sending the host the ACK character.
Flow Controlled	Allows printer to inhibit the transmission of the ACK response if the printer is in the Off Line state, in a printer Fault condition or when received data reaches the high water (Busy) threshold. The respective ACK will be transmitted after the printer returns to the On Line state, the Fault is cleared or the data in the input buffer is decreased to the low water threshold. This option will transmit the ACK immediately if there are no restrictions.

Note

On Prn Complete may cause a reduction in throughput due to the host waiting for the ACK before sending more data.

Protocol	ETX/ACK
ETX/ACK	Disable

1. While in the **Protocol** menu, press the ◀ (left) or ▶ (right) menu browse key until the **ETX/ACK** option is displayed.
2. Press the ▼ (down) menu browse key to access the ETX/ACK options.
3. Press the ◀ (left) or ▶ (right) menu browse keys until the desired ETX/ACK option is displayed in the LCD.
4. Press the **Select** key to enable or disable the setting. See the Set Up Menu Map for available selections. The < symbol will now immediately follow the enabled option.

Inhibit Xmit

This sub-menu is used to configure an Inhibit Xmit setting for the serial setup for RS232 serial type.

Option	Meaning
Never	The host is prevented from controlling the printer's ability to transmit back to the host via the CB (CTS) hardware lead.
Via CB (CTS)	The host can control the inhibit transmit with the Clear to Send (CB) lead.

Serial Setup	Inhibit Xmit
--------------	--------------

1. While in the **Serial Setup** menu, press the ◀ (left) or ▶ (right) menu browse key until **Inhibit Xmit** is displayed in the lower right corner of the display menu.

Inhibit Xmit	Never
--------------	-------

2. Press the ▼ (down) menu browse key to access the **Inhibit Xmit** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired protocol sub-menu option is displayed in the lower right corner of the LCD.
4. Press the **Select** key to enable or disable an option. The < symbol will now immediately follow the enabled option.

Lead Polarity

This sub-menu is used to configure lead polarity settings for RS232 serial type. There are five additional sub-menus available.

Type of Signal Sent	Meaning	
	High	Low
CD(DTR)	Signal is active high.	Signal is active low.
CA (RTS)		
SCA (STRS)		
CB (CTS)		
CC (DSR)		

Serial Setup	Lead Polarity
--------------	---------------

1. While in the **Serial Setup** menu, press the ◀ (left) or ▶ (right) menu browse key until **Lead Polarity** is displayed in the lower right corner of the display menu.
2. Press the ▼ (down) menu browse key to access the **Lead Polarity** sub-menus.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired lead polarity sub-menu selection is displayed in the lower right corner of the LCD.
4. Press the ▼ (down) menu browse key to access setting for the lead sub-menu. Press the ◀ (left) or ▶ (right) menu browse key until the desired setting is displayed in the lower right corner of the LCD.
5. Press the **Select** key to enable or disable an option. The < symbol will immediately follow the enabled option.

Data Bits

This sub-menu is used to configure the number of data bits per character for serial RS232. There are two settings under the Data Bits option, 7 Bits or 8 Bits. Set the data bits equal to that of the host computer.

Serial Setup	Data Bits
--------------	-----------

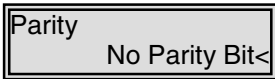
Data Bits	7 Bits
-----------	--------

1. While in the **Serial Setup** menu, press the ◀ (left) or ▶ (right) menu browse key until **Data Bits** is displayed in the lower right corner of the display menu.
2. Press the ▼ (down) menu browse key. **Data Bits** will be displayed in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired selection is displayed in the lower right corner of the LCD. Press the **Select** key to enable or disable an option. The < symbol will now immediately follow the enabled option.

Parity

This sub-menu is used to configure a parity setting for the serial interface. Parity is a serial interface parameter used for error detection.

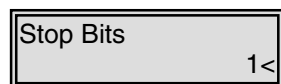
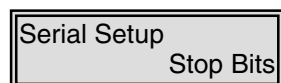
Option	Meaning if Enabled
No Parity Bit	The serial character does not have this bit and parity checking is disabled.
Ignore	The character does contain the parity bit, but it is ignored by the printer with no error detection being made. The bit may be a logical one or zero.
Even	The parity bit set by the host is such that there is an even number of logical “ones” in the character. The printer checks for an even number of “ones” and flags a parity error if there is an odd number of “ones” (including the parity bit).
Odd	The parity bit is set by the host such that there is an odd number of logical “ones” in the character. The printer checks for an odd number of “ones” and flags a parity error if there is an even number of “ones” (including the parity bit).
Space	The parity bit set by the host to a logical zero bit. The printer checks the parity bit for zero and flags a parity error if it is a logical one.
Mark	The parity bit set by the host to a logical one bit. The printer checks the parity bit of one and flags a parity error if it is a logical zero.



1. While in the **Serial Setup** menu, press the ◀ (left) or ▶ (right) menu browse key until **Parity** is displayed in the lower right corner of the display menu.
2. Press the ▼ (down) menu browse key. **Parity** will be displayed in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired selection is displayed in the lower right corner of the LCD. Press the **Select** key to enable or disable an option. The < symbol will now immediately follow the enabled option.

Stop Bits

This sub-menu is used to configure the number of stop bits per character setting for the serial interface. Set the number of stop bits equal to that of the host computer. There are two settings under the Stop Bits option, 1 or 2.

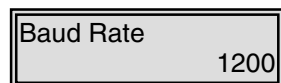
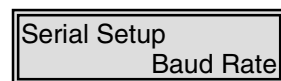


1. While in the **Serial Setup** menu, press the ◀ (left) or ▶ (right) menu browse key until **Stop Bits** is displayed in the lower right corner of the display menu.
2. Press the ▼ (down) menu browse key. **Stop Bits** will be displayed in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired selection is displayed in the lower right corner of the LCD. Press the **Select** key to enable or disable an option. The < symbol will now immediately follow the enabled option.

Baud Rate

This sub-menu is used to configure a baud rate setting for the serial interface. See Set Up Menu Map on page **200** in Appendix I for a complete listing of available selections.

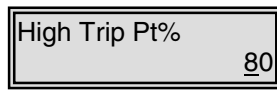
Use the following procedures to enable/disable a baud rate setting:



1. While in the **Serial Setup** menu, press the ◀ (left) or ▶ (right) menu browse key until Baud Rate is displayed in the lower right corner of the display menu.
2. Press the ▼ (down) menu browse key. **Baud Rate** will be displayed in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired selection is displayed in the lower right corner of the LCD. Press the **Select** key to enable or disable an option. The < symbol will now immediately follow the enabled option.

High Trip Pt%

This sub-menu is used to configure a High Trip Point setting for the serial interface as a percentage of total buffer size. This setting configures the point where the printer transmits a signal to the host when the buffer is approaching being full. For example, the default setting is set to 80. This means the printer will send a full buffer signal to the host that the buffer has filled to 80% capacity. The 20% of the buffer acts as a cushion allowing enough time for the printer to process the data in its buffer while giving the host time to stop transmitting data before the buffer is completely (100%) full and data is lost.



1. While in the **Serial Setup** menu, press the ◀ (left) or ▶ (right) menu browse key until **High Trip Pt%** is displayed in the lower right corner of the display menu.
2. Press the **Select** key. **High Trip Pt%** will be displayed in the upper left corner of the LCD, and the current setting will be displayed in the lower right corner of the LCD. Notice the cursor (underline) is now shown under the first digit and the default number is 80. The four menu browse keys revert to data entry operation. The horizontal ◀ ▶ (left or right) keys position the cursor (underline) under the digit to be changed; the vertical ▲ ▼ (up or down keys increment/decrement the selected digit by one.
3. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD. Pressing the **Clear** key does not erase the values entered, but does allow the user to exit the User Set menu.

Note

Repeat this section if further changes are necessary.

Expansion1/Expansion2

This menu option is used to configure the settings for the optional I/O cards in the two expansion slots located in the rear of the printer. The menu options under Expansion1 or Expansion2 are the same. If not labeled, Expansion1 slot is closest to the left side of the printer while facing the rear of the printer for the 5050/5100 cabinet models. Make changes to Expansion1 or Expansion2 settings according to the slot installed. There are six sub-menus under this menu.

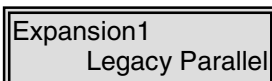


1. While in the **I/F Settings** menu, press the ◀ (left) or ▶ (right) menu browse key until **Expansion1** or **Expansion2** is located in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse, or the **Select** key, to access the Expansion1 or Expansion2 menu.

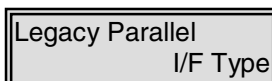
The following describes the selections available:

Legacy Parallel

This sub-menu is used to configure Legacy Parallel settings for the Legacy Parallel I/O card installed in the expansion slot of the printer. There are 2 sub-menus under this option, I/F Type (Hardware) and I/F Straps (Software).



1. While in the **Expansion1** or **Expansion2** menu, press the ◀ (left) or ▶ (right) menu browse key until **Legacy Parallel** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key. **Legacy Parallel** will be displayed in the upper left corner of the LCD.

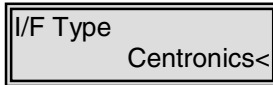


3. Press the ◀ (left) or ▶ (right) menu browse key until **I/F Type** is displayed in the lower right corner of the LCD.
4. Press the ▼ (down) menu browse key to access the **I/F Type** options. A currently active option will be displayed in the lower right corner of the LCD immediately followed by the < symbol.

The following describes the selections available.

Centronics

This menu is used to enable/disable the I/F Straps for Centronics parallel interface. These are also known as hardware straps. See the ***I/F Hardware Straps*** table in Appendix G on page **182** for hardware strap descriptions.

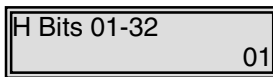


1. While in the **I/F Type** menu, press the ◀ (left) or ▶ (right) menu browse key until Centronics is displayed in the lower right corner of the LCD.

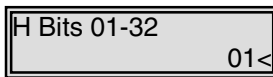
2. Press the ▼ (down) menu browse key to access the I/F Straps options.) **I/F Straps** will be displayed in the upper left corner of the display.



3. Press the ◀ (left) or ▶ (right) menu browse key until the range of **H Bits 01 – 32** or **H Bits 33 - 64** is displayed in the lower right corner of the display.



4. Press the **Select** key to access **H Bits 01 – 32** or **H Bits 33 – 64**. **H Bits 01 - 32** or **H Bits 33 - 64** will be displayed in the upper left corner of the LCD.



5. Depending on the H Bits menu selected, use the ◀ (left) or ▶ (right) menu browse key until the desired H Bit strap is displayed (01-32 or 33-64.) Press the **Select** key to enable/disable an H Bit strap. The < symbol will immediately follow an enabled H Bit strap.

6. Press the **Clear**, or ▲ (up) menu browse, key to exit this menu.

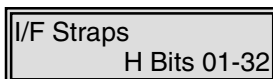
DP(Short)

This menu is used to enable/disable the I/F Straps for DataProducts (Short Lines) I/O Card (optional interface card.) These are also known as hardware straps. See the ***I/F Hardware Straps*** table on page **182** in Appendix G for hardware strap descriptions.

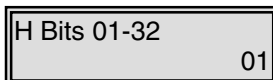


1. While in the **I/F Type** menu, press the ◀ (left) or ▶ (right) menu browse key until DP(Short) is displayed in the lower right corner of the LCD.

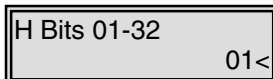
2. Press the ▼ (down) menu browse key to access the I/F Straps options.



3. Press the ◀ (left) or ▶ (right) menu browse key until the range of **H Bits 01 – 32** or **H Bits 33-64** is displayed in the lower right corner of the display.



4. Press the **Select** key to access **H Bits 01 – 32** or **H Bits 33 – 64**. **H Bits 01 - 32** or **H Bits 33 - 64** will be displayed in the upper left corner of the LCD.



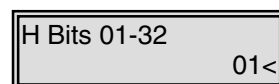
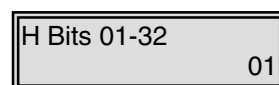
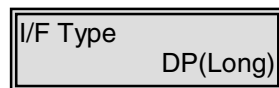
5. Depending on the H Bits menu selected, use the ◀ (left) or ▶ (right) menu browse key until the desired H Bit strap is displayed (01 - 32 or 33 - 64.) Press the **Select** key to enable/disable an H Bit strap. The < symbol will immediately follow an enabled H Bit strap.

6. Press the, **Clear** or ▲ (up) menu browse, key to exit this menu.

DP(Long)

This menu is used to enable/disable the I/F Straps for DataProducts(Long Lines) I/O Card (optional interface card.) These are also known as hardware straps. See the ***I/F Hardware Straps*** table on page **182** in Appendix G for hardware strap descriptions.

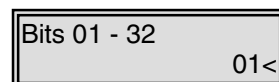
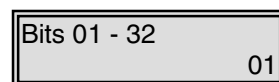
Use the following procedures to access the DP(Long) option:



1. While in the **I/F Type** menu, press the ◀ (left) or ▶ (right) menu browse key until DP(Long) is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the I/F Straps options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the range of **H Bits 01 – 32** or **H Bits 33 - 64** is displayed in the lower right corner of the display.
4. Press the **Select** key to access **H Bits 01 – 32** or **H Bits 33 – 64**. **H Bits 01 - 32** or **H Bits 33 - 64** will be displayed in the upper left corner of the LCD.
5. Depending on the H Bits menu selected, use the ◀ (left) or ▶ (right) menu browse key until the desired H Bit strap is displayed (01 - 32 or 33 - 64.) Press the **Select** key to enable/disable an H Bit strap. The < symbol will immediately follow an enabled H Bit strap.
6. Press the Clear, or ▲ (up) menu browse, key to exit this menu.

I/F Straps

This menu is used to enable/disable the I/F Straps for the Legacy Parallel I/O card (optional interface card.) These are also known as software straps. See the ***I/F Software Straps*** Table on page **183** in Appendix G for additional information.



1. While in the **Legacy Parallel** menu, press the ◀ (left) or ▶ (right) menu browse key until **I/F Straps** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **I/F Straps**. **I/F Straps** will be displayed in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse key until **Bits 01 - 32** or **Bits 33 - 64** is displayed in the lower right corner of the LCD.
4. Press the **Select** key to access **Bits 01 - 32** or **Bits 33 - 64**.
5. Depending on the Bits menu selected, use the ◀ (left) or ▶ (right) menu browse key until the desired Bit strap is displayed (01 - 32 or 33 - 64.) Press the **Select** key to enable/disable a Bit strap. The < symbol will immediately follow an enabled Bit strap.
6. Press the **Clear**, or ▲ (up) menu browse, key to exit this menu.

Token Ring

This menu is used to select the MBit speed for Token Ring usage (optional interface card.) Use the following procedures to select the MBit speed for Token Ring:

Expansion1
Token Ring

Token Ring
16 MBit Speed <

1. While in **Expansion1** or **Expansion2** menu, press the ◀ (left) or ▶ (right) menu browse key until **Token Ring** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) key. **Token Ring** will be displayed in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired Mbit speed is displayed in the lower right corner of the LCD. Press the **Select** key to enable or disable a setting. The < symbol will immediately follow an enabled Mbit speed setting.
4. Press the **Clear**, or ▲ (up) menu browse, key to exit this option.

Coax

This menu is used to configure the Coax settings, Emulation, Buffer Size, and Early Complete. These options are only visible with the appropriate software loaded, SCS or IPDS, and the TX/CX optional I/O card installed in either expansion slot 1 or 2. See the Setup Menu Map on page **200** in Appendix I for available options.

Expansion1
Coax

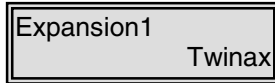
Coax
Emulation

Emulation
6408<

1. While in the **Expansion 1/2** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Coax** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key. **Coax** will be displayed in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired setting is displayed in the lower right corner of the LCD.
4. Press the ▼ (down) menu browse key to access the options. Press the **Select** key to enable/disable a setting. The < symbol will immediately follow an enabled coax setting.
5. Press the **Clear**, or ▲ (up) menu browse, key to exit this option.

Twinax

This menu is used to configure the Twinax settings, Emulation, Station Addr, and Buffer Size. These options are only visible with the appropriate software loaded, SCS or IPDS, and the TX/CX optional I/O card installed in either expansion slot 1 or 2. See Setup Menu Map on page **200** in Appendix I for available options.

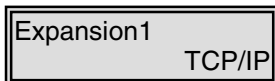


1. While in the **Expansion 1/2** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Twinax** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key. **Twinax** will be displayed in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired setting is displayed in the lower right corner of the LCD.
4. Press the ▼ (down) menu browse key to access the options. Press the **Select** key to enable/disable a setting. The < symbol will immediately follow an enabled twinax setting.
5. Press the **Clear**, or ▲ (up) menu browse, key to exit this option.

TCP/IP

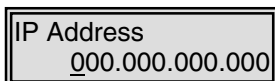
This menu is used to configure the TCP/IP settings, IP Address, Netmask, Router IP Addr, and Frame Type. These options are user-specified, check with the network administrator where printer will be used.

Use the following procedures to set the TCP/IP settings:



1. While in the **Expansion1** or **Expansion2** menu, press the ◀ (left) or ▶ (right) menu browse key until **TCP/IP** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **TCP/IP** menu options. **TCP/IP** is displayed in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired menu setting is displayed in the lower right corner of the LCD. Press the **Select** key to access the menu desired.
4. Press the **Select** key again to enable or disable a setting option. The < symbol will immediately follow an enabled TCP/IP setting. IP Address, Netmask, and Router IP Address are user set options.
5. Pressing the **Clear** key will exit the current option menu option, so that selection of another option may be made.

Use the following procedures to use these settings:



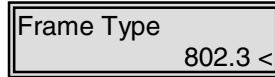
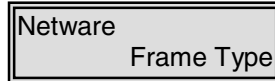
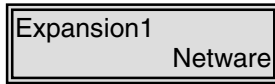
1. The option to be set will be displayed in the upper right corner of the LCD. (The example to the left is for the IP Address setting.) Notice the cursor (underline) is now shown under the first digit. The horizontal ◀ ▶ (left or right) menu browse keys position the cursor (underline) under the digit to be changed; the vertical ▲ ▼ (up or down) menu browse keys increment/decrement the selected digit by one.
2. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD. Pressing the **Clear** key does not erase the values entered, but does allow the user to exit the User Set menu.

Note

Repeat this section if further changes are necessary. Cycle power after entries to activate changes.

Netware

This menu is used to select the Frame Type for Novell Netware. Use the following procedures to select a Frame Type for Netware.



1. While in the **Expansion1** or **Expansion2** menu, press the ◀ (left) or ▶ (right) menu browse key until **Netware** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) key. **Netware** will be displayed in the upper left corner of the LCD and **Frame Type** will be displayed in the lower right corner.
3. Press the ▼ (down) key again. **Frame Type** will be displayed in the upper left corner of the LCD.
4. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed in the lower right corner of the LCD.
5. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

IBM Host Status

If enabled and an IBM interface board is installed in Expansion slot 1 or 2, the control panel will display a status related to the IBM host. The messages are dependent on the connection type, Twinax or Coax.

Connection Type	LCD Message	Meaning	Action Required
Twinax	Ready	Printer is Online and communicating with the host.	None
	06 ATTENTION	Operator attention is requested by the host.	See the system operator.
	15 COMM CHECK	No host communication.	Check cabling.
Coax	Ready	Printer is Online and communicating with the host.	None.
	06 ATTENTION	Operation attention is requested by the host..	See the system operator.
	08 HOLD TIME-OUT	The printer is Offline and the time set in menu options IRQ BSY TO or IRQ ERR TO has expired.	Put the printer online.
	27 NOT ENABLED	Communications Failure.	Check cabling.
	28 NO CCU SIGNAL	No host communication.	Check cabling.
	59 CANCEL	Cancel requested. Will change to "Ready" where cancel is accepted by the host.	Put the printer online.
	61 PA1	PA1 key requested. Will change to "Ready" when the key is accepted by the host..	Put the printer online.
	62 PA2	PA2 key requested. Will change to "Ready" when the key is accepted by the host.	Put the printer online.
	63 SEND STATE	Printer placed in send state by the host.	See the system operator.

I/F Settings
IBM Host Status

IBM Host Status
Enable<

1. While in the **I/F Settings** menu, press the ◀ (left) or ▶ (right) menu browse key until **IBM Host Status** is located in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse, or the **Select** key, to access the IBM Host Status menu options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired setting is displayed in the lower right corner of the LCD.
4. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

SELECT FILTER

This menu option allows the operator to select an interface filter option. Multiple filters can be active. Three software loads: standard, SCS, and IPDS (QMS and IGP is included in standard and SCS loads). The maximum multiple filters is four. Hexdump has the lowest selection priority.

Depending on the software that is loaded, the printer can process QMS, IGP, Coax/Twinax SCS and Coax/Twinax IPDS data. All versions of software can process Hex Passthrough data. All versions of software can also execute Hex Dump mode, a diagnostic mode that prints the received data as hex character pairs. Enabling a Filter causes received data to be examined by that processor. For example, enabling the QMS Filter causes the received data to go through the QMS processor. If the QMS Filter is not enabled, the received data is not examined by the QMS processor and any QMS commands in the data will be print as text and not execute the QMS functionality.

Combinations of filters allows debugging received data and debugging problems with the printer's processing of the received data. The following 4 examples describe the printer's behavior with some of the filter selections:

Example 1: Enabling the Hex Dump Filter causes the printer to print a hex dump of the data as it is received from the host. If the received data is a coax or twinax, the dump is EBCDIC hex. Otherwise, it is ASCII hex.

Example 2: Disabling the QMS Filter, will cause the printer to print QMS commands as normal text without the printer taking action on QMS commands received.

Example 3: Enabling the Hex Dump Filter and QMS simultaneously, will cause the printer to print a hex dump of the output of the QMS processor.

Example 4: Enabling the Hex Dump Filter and SCS simultaneously, will cause the printer to print a hex dump of the output of the SCS processor.

The following table shows the order and printer function with various Filter combinations:

Selection(s)				Action Taken by Printer
IPDS or SCS	QMS or IGP	Hex Pass	Hex Dump	
				Printed without passing through any filter(s).
X				Processed by the SCS or IPDS Filter.
	X			Processed by the QMS or IGP Filter.
X	X			Processed by the SCS or IPDS Filter first, then processed by the QMS or IGP Filter.
		X		Processed by the Hex Passthrough Filter.
X		X		Processed by the SCS or IPDS Filter first, then processed by the Hex Passthrough Filter.
	X	X		Processed by the QMS or IGP Filter first, then process by the Hex Passthrough Filter.
X	X	X		Processed by the SCS or IPDS Filter, then processed by the QMS or IGP Filter, and finally processed by the Hex Passthrough Filter.
X			X	Processed by the SCS or IPDS Filter first, then processed by the Hex Dump Filter.
	X		X	Processed by the QMS or IGP Filter first, then processed by the Hex Dump Filter.
X	X		X	Processed by the SCS or IPDS Filter, processed by the QMS or IGP Filter, and finally processed by the Hex Dump Filter.
		X	X	Processed by the Hex Passthrough Filter first, then processed by the Hex Dump.
X		X	X	Processed by the SCS or IPDS Filter, processed by the Hex Passthrough Filter, and finally processed by the Hex Dump Filter.
	X	X	X	Processed by the QMS or IGP Filter, processed by the Hex Passthrough Filter, and finally processed by the Hex Dump Filter.
X	X	X	X	Processed by the SCS or IPDS Filter, processed by the QMS or IGP Filter, processed by the Hex Passthrough Filter and finally processed by the Hex Dump Filter.

Note

QMS and IGP are mutually exclusive. Selecting the menu option “None” deactivates *all* interface filters. SCS and IPDS are only selectable if the optional SCS or IPDS software has been loaded. See the Operator Menu Map on page 198 in Appendix I for a complete listing of the selections available.



1. While in **Set Up** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Select Filter** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the Select Filter options. **Select Filter** will be displayed in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse keys until the filter desired is displayed in the lower right corner of the LCD.
4. Press the **Select** key to select the filter option. The < symbol will now immediately follow the saved filter option.

FILTER SETTINGS

This menu option configures settings for QMS, IGP, IPDS* and IBM Format*.

Use the following procedures to use this option.



1. While in the **Set Up** menu, press the ◀ (left) or ▶ (right) menu browse key until **Filter Settings** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Filter Settings** options.

* Viewable with SCS or IPDS software installed in printer.

The following describes the sub-menus and options available:

IGP

This configures the IGP filter option.

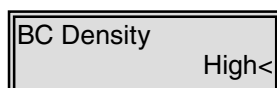
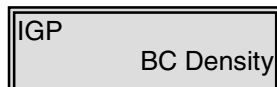


1. While in the **Filter Settings** menu, press the ◀ (left) or ▶ (right) menu browse key until **IGP** is displayed in the lower right corner of the display.
2. Press the ▼ (down) menu browse key to access the configuration settings for IGP.

The following describes the options available:

BC Density

This selects the BC (Bar Code) Density setting for IGP. **Low** represents low density, **Medium** represents double horizontal, and **High** represents staggered format.



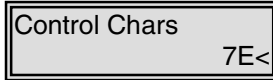
1. While in the **IGP** menu, press the ◀ (left) or ▶ (right) menu browse key until **BC Density** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **BC Density** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Control Chars

This selects the Control Chars (SFCC, Special Function Control Character) setting for IGP. The values that are selected in the menus are ASCII hexadecimal. These are the DSC (DataStream Compatibility) values based on the IBM EBCDIC code pages that are being used. The default value is 7E.



1. While in the **IGP** menu, press the ◀ (left) or ▶ (right) menu browse key until **Control Chars** is displayed in the lower right corner of the LCD.



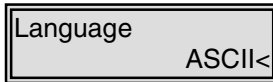
2. Press the ▼ (down) menu browse key to access the **Control Chars** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Language

This selects the Language for IGP. This permits the selection of one of twelve International Standards Organization (ISO) character sets as the default character set.



1. While in the **IGP** menu, press the ◀ (left) or ▶ (right) menu browse key until **Language** is displayed in the lower right corner of the LCD.



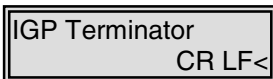
2. Press the ▼ (down) menu browse key to access the **Language** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

IGP Terminator

This selects the IGP Terminator for IGP. When set to CR, all IGP commands are required to be terminated with a carriage return. When set to CR LF, all IGP commands are required to be terminated with a carriage return and linefeed.



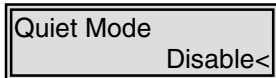
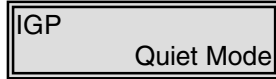
1. While in the **IGP** menu, press the ◀ (left) or ▶ (right) menu browse key until **IGP Terminator** is displayed in the lower right corner of the LCD.



2. Press the ▼ (down) menu browse key to access the **IGP Terminator** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Quiet Mode

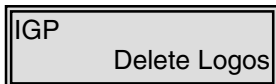
This selects the Quiet Mode setting for IGP. When enabled, all IGP commands are passed unprocessed to the printer (printed as text.) Disabling this option, or receiving a LISTEN command, will disable **Quiet Mode**.



1. While in the **IGP** menu, press the ◀ (left) or ▶ (right) menu browse key until **Quiet Mode** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Quiet Mode** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Delete Logos

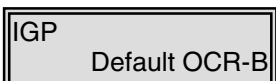
This selects the Delete Logos setting for IGP. When enabled, logos that are associated with a form will be deleted when the form is deleted. To conserve IGP memory, all forms and logos should be deleted when they are no longer required.



1. While in the **IGP** menu, press the ◀ (left) or ▶ (right) menu browse key until **Delete Logos** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Delete Logos** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Default OCR-B

This selects the OCR-B setting for IGP. When enabled, the default font will be OCR-B.



1. While in the **IGP** menu, press the ◀ (left) or ▶ (right) menu browse key until **Default OCR-B** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Default OCR-B** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Vertical DPI

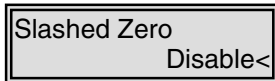
This selects the Vertical DPI setting for IGP. This is used to specify the Vertical Dots Per Inch. If set to 70 (72), a one-inch (1") high character will be 70 (72) of an inch high.



1. While in the **IGP** menu, press the ◀ (left) or ▶ (right) menu browse key until **Vertical DPI** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Vertical DPI** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Slashed Zero

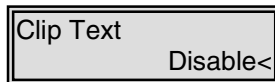
This selects the Slashed Zero setting for IGP. When enabled, zero characters will print as slashed zeros, e.g., “Ø.”



1. While in the **IGP** menu, press the ◀ (left) or ▶ (right) menu browse key until **Slashed Zero** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Slashed Zero** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Clip Text

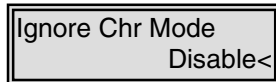
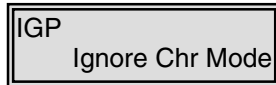
This selects the Clip Text (Excess Text Ignored) setting for IGP. When enabled, any text that exceeds the IGP form length will not be printed.



1. While in the **IGP** menu, press the ◀ (left) or ▶ (right) menu browse key until **Clip Text** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Clip Text** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Ignore Chr Mode

This menu selects the Ignore Character Mode setting for IGP. When Ignore Chr Mode is enabled, the character value specified in Ignore Char option will be discarded when detected in the datastream. If this option is enabled, a character must be designated to be discarded using an Ignore Char (see next option.)

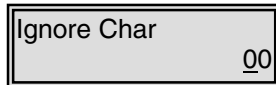
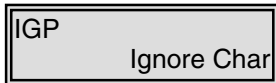


1. While in the **IGP** menu, press the ◀ (left) or ▶ (right) menu browse key until **Ignore Chr Mode** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Ignore Chr Mode** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Ignore Char

This menu option is used to set the hexadecimal value of the received data character to be ignored when the Ignore Chr Mode is enabled (See previous option). The valid range of hexadecimal values is 0X00 to 0XFF.

Use the following procedure to select this option:



1. While in the **IGP** menu, press the ◀ (left) or ▶ (right) menu browse key until **Ignore Character** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to access the **Ignore Character** options.
3. This option is user set. Notice the cursor (underline) is now shown under the first digit. The horizontal ◀ ▶ (left or right) menu browse keys to position the cursor (underline) under the digit to be changed; the vertical ▲ ▼ (up or down) menu browse key increment/decrement the selected alphanumeric digit by one. Enter the hex value of the character desired.
4. Press the **Select** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD. Repeat this step if further changes are necessary.
5. Press the **Clear** key to exit this option.

Form Length=0

With **Normal** enabled, the printer will logically advance by the <FF> command after processing an execution command. This is the default factory-set condition. The user may set this option to **Ignore** and the printer will not logically advance by the <FF> command.

IGP
Form Length=0

Form Length=0
Normal<

1. While in the **IGP** menu, press the ◀ (left) or ▶ (right) menu browse key until **Form Length=0** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Form Length=0** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Ignore Term

Two IGP commands are effected by the Ignore Term option; IGOFF and SFOFF each with a following <CR>, <LF> or <CR><LF>. The Ignore Term option setting effects the vertical position integrity of the resulting print out. If the Ignore Term option is disabled, the trailing <LF> will be executed (i.e. the paper will be logically advanced by the <LF> command). This is the default factory-set condition. If the Ignore Term option is enabled, the trailing <LF> will not be executed (i.e. the paper will not be logically advanced by the <LF> amount).

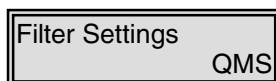
IGP
Ignore Term

Ignore Term
Disable<

1. While in the **IGP** menu, press the ◀ (left) or ▶ (right) menu browse key until **Ignore Term** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Ignore Term** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

QMS

This menu option configures the QMS filter option.

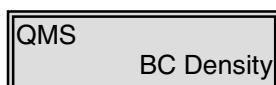


1. While in the **Filter settings** menu, press the ◀ (left) or ▶ (right) menu browse key until **QMS** is displayed in the lower right corner of the display.
2. Press the ▼ (down) menu browse key to access the configuration settings for QMS.

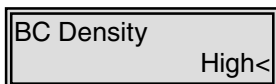
The following describes the options available:

BC Density

This menu option selects the BC (Bar Code) Density for QMS. **Low** represents low density, **Medium** represents double horizontal, and **High** represents staggered format.



1. While in the **QMS** menu, press the ◀ (left) or ▶ (right) menu browse key until **BC Density** is displayed in the lower right corner of the LCD.



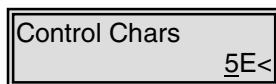
2. Press the ▼ (down) menu browse key to access the **BC Density** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Control Chars

The values that are selected in the menus are ASCII hexadecimal. These are the DSC (DataStream Compatibility) values based on the IBM EBCDIC code pages that are being used. The default is 0X5E (circumflex).

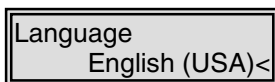


1. While in the **QMS** menu, press the ◀ (left) or ▶ (right) menu browse key until **Control Chars** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Control Chars** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.



Language

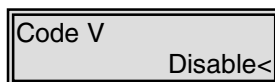
This menu option selects the Language for QMS. This permits the selection of one of twelve International Standards Organization (ISO) character sets as the default character set.



1. While in the **QMS** menu, press the ◀ (left) or ▶ (right) menu browse key until **Language** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Language** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Code V

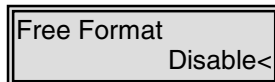
When this feature is enabled, QMS commands will be processed as though a ^PY (QMS ON) Command had been received. This feature is used in installations where all jobs do not contain the ^PY Command. With this feature enabled, the printer is always in the “QMS ON” mode.



1. While in the **QMS** menu, press the ◀ (left) or ▶ (right) menu browse key until **Code V** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Code V** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Free Format

This menu selects Free Format setting for QMS. If enabled, the printer ignores all characters with hexadecimal values less than 20H, this includes all system paper movement commands. This option will be turned off if the printer receives the ^O (Free Format OFF) Command.



1. While in the **QMS** menu, press the ◀ (left) or ▶ (right) menu browse key until **Free Format** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Free Format** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Ignore Mode

This selects Ignore Mode (Ignore Data Mode) for QMS. When Ignore Mode is enabled, all data received from the host is ignored until a ^A (Ignore Mode OFF) Command is received. If this option is enabled, the **Code V** option must also be enabled.

QMS
Ignore Mode

Ignore Mode
Disable<

1. While in the QMS menu, press the ◀ (left) or ▶ (right) menu browse key until **Ignore Default** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the Ignore Default options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Slashed Zero

This selects the Slashed Zero setting for QMS. When enabled, zeros are printed as slashed zeros, e.g.. "Ø."

QMS
Slashed Zero

Slashed Zero
Disable<

1. While in the **QMS** menu, press the ◀ (left) or ▶ (right) menu browse key until **Slashed Zero** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Slashed Zero** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

PY Terminator

This selects either CR or CR LF as the ^PY Command Terminator for QMS. The ^PY^- magnum on command should be terminated with ASCII <CR><LF>. With this option set to LF, the <LF> is ignored. It may also be terminated by a carriage return/linefeed combination. The linefeed causes printing to begin on the second line of the program. If printing on the first line is desired, set this option to CR.

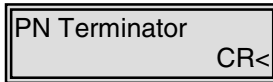
QMS
PY Terminator

PY Terminator
CR<

1. While in the **QMS** menu, press the ◀ (left) or ▶ (right) menu browse key until **PY Terminator** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **PY Terminator** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

PN Terminator

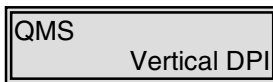
This selects either CR or CR LF as the ^PN Command Terminator for QMS. The QMS OFF Command ^PN^- may be terminated by a carriage return/linefeed combination. If no linefeed is desired when QMS is turned off, set this option to CR.



1. While in the **QMS** menu, press the ◀ (left) or ▶ (right) menu browse key until **PN Terminator** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **PN Terminator** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Vertical DPI

This menu selects the Vertical DPI setting for QMS. This specifies the Vertical Dots Per Inch in Code V Version I. If set to 70 (72), a one-inch (1") high character (as called for in a Magnum command) will be 70(72) of an inch high.

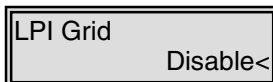


1. While in the **QMS** menu, press the ◀ (left) or ▶ (right) menu browse key until **Vertical DPI** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Vertical DPI** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

LPI Grid

This menu selects the LPI Grid setting for QMS. When enabled, a linefeed <LF> after a graphics pass position printing at the next LPI grid position. If disabled, a linefeed after a graphics move will move the paper a full LPI increment.

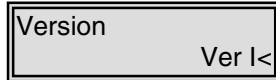
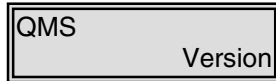
Use the following procedure to select this option:



1. While in the **QMS** menu, press the ◀ (left) or ▶ (right) menu browse key until **LPI Grid** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **LPI Grid** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Version

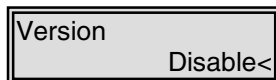
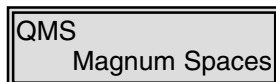
This menu selects the Version for QMS. This feature is provided for users of Code V Version I programming which utilized rotated MAGNUM characters. Elongation of characters could cause print line length to be exceeded. Setting this option to Ver I, will prevent character elongation from causing print line overflow.



1. While in the **QMS** menu, press the ◀ (left) or ▶ (right) menu browse key until **Version** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Version** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Magnum Spaces

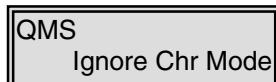
This selects Magnum Spaces for QMS. When Magnum Spaces is enabled, trailing spaces in strings are ignored. If a Magnum pass field contains only spaces, the defined height of the field is ignored.



1. While in the **QMS** menu, press the ◀ (left) or ▶ (right) menu browse key until **Magnum Spaces** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Magnum Spaces** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Ignore Chr Mode

This menu selects the Ignore Character Mode setting for QMS. When Ignore Chr Mode is enabled, the character value specified in Ignore Char option will be discarded when detected in the datastream. If this option is enabled, a character must be designated to be discarded using the Ignore Char (see next option.)

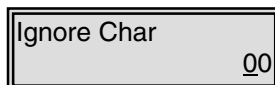
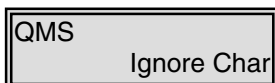


1. While in the **QMS** menu, press the ◀ (left) or ▶ (right) menu browse key until **Ignore Chr Mode** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Ignore Chr Mode** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Ignore Char

This menu option is used to set the hexadecimal value of the received data character to be ignored when the Ignore Chr Mode is enabled (See previous option). The valid range of hexadecimal values is 0X00 to 0XFF.

Use the following procedure to select this option:



1. While in the **QMS** menu, press the ◀ (left) or ▶ (right) menu browse key until **Ignore Character** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to access the **Ignore Character** options.
3. This option is user set. Notice the cursor (underline) is now shown under the first digit. The horizontal ◀ ▶ (left or right) menu browse keys to position the cursor (underline) under the digit to be changed; the vertical ▲ ▼ (up or down) menu browse key increment/decrement the selected alphanumeric digit by one. Enter the hex value of the character desired.
4. Press the **Select** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD. Repeat this step if further changes are necessary.
5. Press the **Clear** key to exit this option.

IPDS

This configures the IPDS (Intelligent Print Data Stream) options. This menu option and its submenus are visible with IPDS software loaded in the printer.

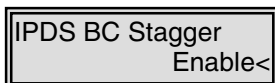


1. While in the **Filter Settings** menu, press the ◀ (left) or ▶ (right) menu browse key until **IPDS** is displayed in the lower right corner of the display.
2. Press the ▼ (down) menu browse key to access the configuration settings for IPDS.

The following describes the options available:

IPDS BC Stagger

This selects the IPDS BC (Bar Code) Stagger setting for IPDS. When enabled, barcode printing is faster but at a lower print quality.



1. While in the **IPDS** menu, press the ◀ (left) or ▶ (right) menu browse key until **IPDS BC Stagger** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **IPDS BC Stagger** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

IPDS BC Density

This selects the IPDS BC (Barcode) Density setting for IPDS. **Low** is 72 dots horizontally by 72 dots vertically and **High** is 144 dots horizontally by 144 vertically.

IPDS
IPDS BC Density

IPDS BC Density
Low<

1. While in the **IPDS** menu, press the ◀ (left) or ▶ (right) menu browse key until **IPDS BC Density** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **IPDS BC Density** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Note

At Low density, some barcode styles may not be readable.

IPDS GR Density

This selects the IPDS GR (Graphics) Density setting for IPDS. **Low** is 72 dots per inch and **High** is 144 dots per inch. Higher density means better print quality, but at a lower speed.

IPDS
IPDS GR Density

IPDS GR Density
Low<

1. While in the **IPDS** menu, press the ◀ (left) or ▶ (right) menu browse key until **IPDS GR Density** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **IPDS GR Density** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

IPDS Im Density

This selects the IPDS Im (Image) Density setting for IPDS. **Low** is 72 dots per inch and **High** is 144 dots per inch. Higher density means better print quality, but at a lower speed.

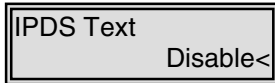
IPDS
IPDS Image Density

IPDS Image Density
Low<

1. While in the **IPDS** menu, press the ◀ (left) or ▶ (right) menu browse key until **IPDS Image Density** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **IPDS Image Density** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

IPDS Text

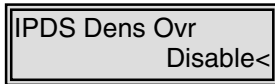
This selects the IPDS Text Quality. Dp (Data Processing), Draft and NLQ (Near Letter Quality) are the options available.



1. While in the **IPDS** menu, press the ◀ (left) or ▶ (right) menu browse key until **IPDS Text** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **IPDS Text** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

IPDS Dens Ovr

This selects IPDS Dens Ovr (Density Override) setting for IPDS. When enabled, the printer will override any IPDS command attempting to change the IPDS BC Density, IPDS GR Density, IPDS Image Density, and IPDS Text quality, the current menu values are used. When disabled, density and text quality values can be changed by IPDS commands.



1. While in the **IPDS** menu, press the ◀ (left) or ▶ (right) menu browse key until **IPDS Dens Ovr** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **IPDS Dens Ovr** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

IBM Format

This configures the settings in the IBM Format menu. The menu and its submenus are only visible with IPDS or SCS software loaded in the printer. Some of these options apply only to SCS and some apply to both SCS and IPDS.



1. While in the **Filter Settings** menu, press the ◀ (left) or ▶ (right) menu browse key until **IBM Format** is displayed in the lower right corner of the display.
2. Press the ▼ (down) menu browse key to access the configuration settings for IBM Format.

The following describes the options available:

Code Page

This selects the EBDIC Code Page for SCS and IPDS. See the Set Up Menu Map on page **201** in Appendix I for a complete listing of available selections.

IBM Format
Code Page

Code Page
037<

1. While in the **IBM Format** menu, press the ◀ (left) or ▶ (right) menu browse key until **Code Page** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Code Page** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Code Pg Override

This is used to enable/disable Code Page Override. When enabled, the printer will override any host-set command which attempts to change the Code Page. The current menu selection is used.

IBM Format
Code Pg Override

Code Pg Override
Disable<

1. While in the **IBM Format** menu, press the ◀ (left) or ▶ (right) menu browse key until **Code Pg Override** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Code Pg Override** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the key to enable or disable an option. The < symbol will immediately follow an enabled option.

Draft = High Speed

If an SCS or IPDS command is received that defines Draft font and this option is disabled, the Draft font (standard 7 dot rows high) is selected. If Draft is requested and this option is enabled, the High Speed Draft font (5 dot rows high) is selected.

Note

High Speed greatly improves throughput, but not all characters required by all IBM Code Pages are available.

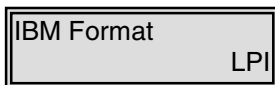
IBM Format
Draft = High Speed

Draft = High Speed
Disable<

1. While in the **IBM Format** menu option, press the ◀ (left) or ▶ (right) key until **Draft = High Speed** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) key to access the **Draft = High Speed** menu options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

LPI

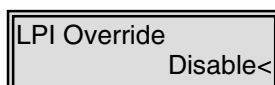
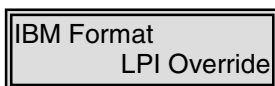
This changes the operator-set LPI (Lines Per Inch) in DSC/DSE mode, this value cannot be overridden by the host. The operator-set LPI value can be changed by the SCS datastream.



1. While in the **IBM Format** menu option, press the ◀ (left) or ▶ (right) key until **LPI** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) key to access the **LPI** menu options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

LPI Override

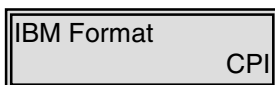
This enables/disables the LPI Override setting. When enabled, the printer will override (ignore) any host-SCS command which attempts to change the lines per inch value. The current operator-set value is used.



1. While in the **IBM Format** menu option, press the ◀ (left) or ▶ (right) key until **LPI Override** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) key to access the **LPI Override** menu options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

CPI

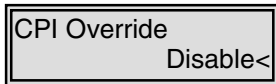
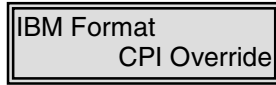
This changes the operator-set CPI (Characters Per Inch). The operator-set CPI value can be overridden by the datastream. In DCS/DSE mode, this value cannot be overridden by the host.



1. While in the **IBM Format** menu option, press the ◀ (left) or ▶ (right) key until **CPI** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) key to access the **CPI** menu options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

CPI Override

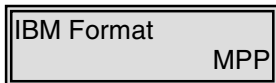
This enables/disables the CPI Override setting. When enabled, the printer will override (ignore) any host-SCS command which attempts to change the characters per inch value. The current operator-set value will be used.



1. While in the **IBM Format** menu option, press the ◀ (left) or ▶ (right) menu browse key until **CPI Override** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **CPI Override** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

MPP

MPP sets the value for the maximum print position. In SCS mode, this value may be overridden by host-SCS commands. When powered on, the printer computes the available MPP. If this option is set to zero or a value greater than the computed maximum, the printer will use the computed maximum as the default. In DSC/DSE, mode this value cannot be overridden by the host.



1. While in the **IBM Format** menu, press the ◀ (left) or ▶ (right) menu browse key until **MPP** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to configure the **MPP** options.
3. Notice the cursor (underline) is now shown under the first digit. Use the horizontal ◀ ▶ (left or right) menu browse keys to position the cursor (underline) under the digit to be changes; use the vertical ▲ ▼ (up or down) menu browse keys to increment/decrement the selected numeric digit by one.
4. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD.

Note

Repeat this section if further changes are necessary.

MPP Override

This enables/disables MPP (maximum print position) Override. When enabled, the printer will override (ignore) any host-SCS command which attempts to change MPP. The operator-set value is used.

IBM Format
MMP Override

MMP Override
Disable<

1. While in the **IBM Format** menu, press the ◀ (left) or ▶ (right) menu browse key until **MPP Override** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **MPP Override** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

MPL

MPL sets the value for the default maximum page length in lines. In SCS mode this value may be overridden by the host-SCS command. When powered on, the printer computes the available page length. If the MPL is set to zero or a value greater than the computed maximum, the printer will use the computed maximum as the default. In DSC/DSE mode, this option sets the absolute MPL and cannot be overridden by the data stream.

IBM Format
MPL

MPL
000

1. While in the **IBM Format** menu, press the ◀ (left) or ▶ (right) menu browse key until **MPL** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to configure the **MPL** options.
3. Notice the cursor (underline) is now shown under the first digit. Use the horizontal ◀ ▶ (left or right) menu browse keys to position the cursor (underline) under the digit to be changes; use the vertical ▲ ▼ (up or down) menu browse keys to increment/decrement the selected numeric digit by one.
4. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD.

Note

Repeat this section if further changes are necessary.

MPL Override

This enables/disables MPL (maximum print lines) Override. When enabled, the printer will override (ignore) any host-SCS command which attempts to change MPL.

IBM Format
MPL Override

MPL Override
Disable<

1. While in the **IBM Format** menu, press the ◀ (left) or ▶ (right) menu browse key until **MPL Override** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **MPL Override** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

SCS Text

This selects text quality for SCS mode. The options (ranked from lowest quality to highest quality are Draft, Data Processing, and Near Letter Quality.

IBM Format
SCS Text

SCS Text
Dp<

1. While in the **IBM Format** menu, press the ◀ (left) or ▶ (right) menu browse key until **SCS Text** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **SCS Text** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Override Text

This enables/disables the Override Text option. When enabled, the printer will override (ignore) any host-SCS command which attempts to change the text quality selected by the SCS text menu. The operator-set value will be used.

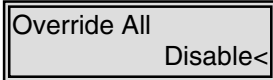
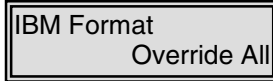
IBM Format
Override Text

Override Text
Disable

1. While in the **IBM Format** menu, press the ◀ (left) or ▶ (right) menu browse key, until **Override Text** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Override Text** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Override All

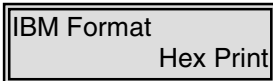
This enables/disables the Override All option. When enabled, the printer will override (ignore) any host-SCS commands which attempts to change the values of Code Page, LPI, CPI, MPP, or MPL. Operator-set values will be used. When disabled, the individual override options control Code Page, LPI, CPI, MPP, or MPL.



1. While in the **IBM Format** menu, press the ◀ (left) or ▶ (right) menu browse key until **Override All** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Override MMP** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Hex Print

This enables/disables the Hex Print option. Hex Print is used to troubleshoot communications or applications program problems. The received EBCDIC data stream is converted to hex dump format and printed. The printout can aid in determining what the printer is being instructed to do by the data stream.



1. While in the **IBM Format** menu, press the ◀ (left) or ▶ (right) menu browse key until **Hex Print** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Hex Print** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Selecting values for Hex 1, Hex 2, Hex Term, DCF1, DCF2, DCF Term

The values that are selected in the menus are ASCII hexadecimal. These are the DSC (DataStream Compatibility) values based on the IBM EBCDIC code pages that are being used. The factory default values assume the factory default EBCDIC code page is selected (CP 037 U.S. English). For example:

Hex 1 default is AMPERSAND, DSC value Hex 30

Hex 2 default is PERCENT, DSC value Hex 2E

Hex Passthrough Modes

The default values for Hex 1 and Hex 2 are used in the following examples:

Example 1: If Hex Term is 0 (this is the factory default), Hex Passthrough mode is single byte un-terminated.

&%hh

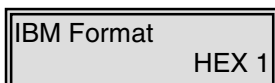
Example 2: If Hex Term is not 0, Hex passthrough mode is terminated, either single byte or multi-byte. Hex Passthrough exits on receipt of the Hex Term character, and the Hex Term character is discarded. If a non-hex character is received, Hex passthrough exits and the non-hex character is printed. In the following examples, Hex Term would be set to Semicolon

&%hhh;

&%hhhhh...;

Hex 1

Hex 1 defines the first character (in EBCDIC) of the lead-in sequence for hex passthru. Hex passthru enables sending commands in the datastream to access features that are not available in standard IBM emulations. Hex passthru requires two lead-in characters (Hex 1 and Hex 2) indicating the beginning of the command stream and a terminating character (Hex Term) indicating the end of the command stream. Upon receipt of the two lead-in characters, the emulation controller begins translating the EBCDIC characters 0 to 9 and A to F into hexadecimal data. Two EBCDIC characters are combined into one ASCII hexadecimal byte and sent to the printer. Translation continues until the terminating character (Hex Term) is received.



1. While in the **IBM Format** menu, press the ◀ (left) or ▶ (right) menu browse key until **HEX 1** is displayed in the lower right corner of the LCD.

2. Press the **Select** key to configure the **HEX 1** options.



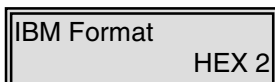
3. Notice the cursor (underline) is now shown under the first digit. The horizontal ◀ ▶ (left or right) menu browse keys to position the cursor (underline) under the digit to be changed; the vertical ▲ ▼ (up or down) menu browse key increment/decrement the selected numeric digit by one.
4. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD.

Note

Repeat this section if further changes are necessary.

Hex 2

This option defines the second character (in EBCDIC) of the lead-in sequence for hex passthru. See Hex 1 for additional information.



1. While in the **IBM Format** menu, press the ◀ (left) or ▶ (right) menu browse key until **HEX 2** is displayed in the lower right corner of the LCD.

2. Press the **Select** key to configure the **HEX 2** options.



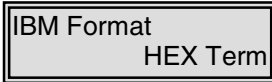
3. Notice the cursor (underline) is now shown under the first digit. The horizontal ◀ ▶ (left or right) menu browse keys to position the cursor (underline) under the digit to be changed; the vertical ▲ ▼ (up or down) menu browse key increment/decrement the selected numeric digit by one.
4. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD.

Note

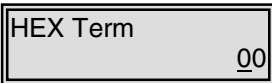
Repeat this section if further changes are necessary.

Hex Term

Hex Term is used to define the last character (in EBCDIC) of a hex passthru sequence. See Hex 1 for additional information.



1. While in the **IBM Format** menu, press the ◀ (left) or ▶ (right) menu browse key until **HEX Term** is displayed in the lower right corner of the LCD.



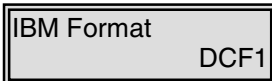
2. Press the **Select** key to configure the **HEX Term** options.
3. Notice the cursor (underline) is now shown under the first digit. The horizontal ◀ ▶ (left or right) menu browse keys to position the cursor (underline) under the digit to be changed; the vertical ▲ ▼ (up or down) menu browse key increment/decrement the selected numeric digit by one.
4. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD.

Note

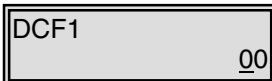
Repeat this section if further changes are necessary.

DCF 1

This selects the DCF 1 setting. DCF 1, DCF 2, and DCF Term may be received in the data stream to modify printer functions. DCF capacity has been preserved in order to allow receipt of print jobs that were created for older printer products that do not have the LCD menu feature. All options that were previously set using DCF commands can now be set using the LCD menus. The LCD menus is the preferred method.



1. While in the **IBM Format** menu, press the ◀ (left) or ▶ (right) menu browse key until **DCF1** is displayed in the lower right corner of the LCD.



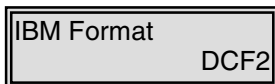
2. Press the **Select** key to configure the DCF1 option.
3. Notice the cursor (underline) is now shown under the first digit. Use the horizontal ◀ ▶ (left or right) menu browse keys to position the cursor (underline) under the digit to be changes; use the vertical ▲ ▼ (up or down) menu browse keys to increment/decrement the selected numeric digit by one.
4. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD.

Note

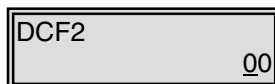
Repeat this section if further changes are necessary.

DCF 2

This selects the DCF2 setting. See DCF 1 for additional information.



1. While in the **IBM Format** menu, press the ◀ (left) or ▶ (right) menu browse key until **DCF2** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to configure the **DCF2** options.
3. Notice the cursor (underline) is now shown under the first digit. Use the horizontal ◀ ▶ (left or right) menu browse keys to position the cursor (underline) under the digit to be changed; use the vertical ▲ ▼ (up or down) menu browse keys to increment/decrement the selected numeric digit by one.
4. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD.

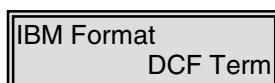


Note

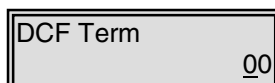
Repeat this section if further changes are necessary.

DCF Term

This selects the DCF Term setting. See DCF 1 for additional information.



1. While in the **IBM Format** menu, press the ◀ (left) or ▶ (right) menu browse key until **DCF Term** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to configure the DCF Term options.
3. Notice the cursor (underline) is now shown under the first digit. Use the horizontal ◀ ▶ (left or right) menu browse keys to position the cursor (underline) under the digit to be changed; use the vertical ▲ ▼ (up or down) menu browse keys to increment/decrement the selected numeric digit by one.
4. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD.

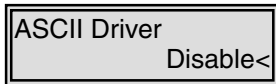
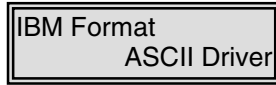


Note

Repeat this section if further changes are necessary.

ASCII Driver

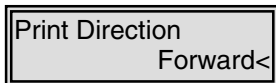
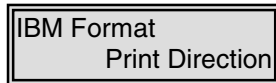
This enables/disables ASCII Driver. When enabled, this menu option prevents commands in SCS jobs from changing control panel selections of CPI, LPI, MPL, etc. The printer's SCS controller will not send any Escape sequences to the print engine.



1. While in the **IBM Format** menu, press the ◀ (left) or ▶ (right) menu browse key until **ASCII Driver** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **ASCII Driver** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Print Direction

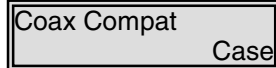
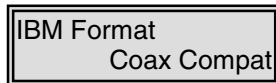
This option sets the print direction to either Forward (default), left to right or Reverse, right to left printing. Reverse is for languages that need to be right based (i.e. Arabic).



4. While in the **IBM Format** menu, press the ◀ (left) or ▶ (right) menu browse key until **Print Direction** is displayed in the lower right corner of the LCD.
5. Press the ▼ (down) menu browse key to access the **Print Direction** options.
6. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Coax Compat

This menu is used to configure the Coax Compat (Coax Compatibility) settings.



1. While in the **IBM Format** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Coax Compat** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key. **Coax Compatibility** will be displayed in the upper left corner of the LCD.

The following describes the options available.

Case

This option is valid for DSC/DSE (LU-3) modes only. SCS (LU-1) is always dual case. It causes the printer to print in upper and lower case when set to **Dual**, or in upper case only when set to **Mono**.

Coax Compat
Case

1. While in the **Coax Compat** menu option, press the ◀ (left) or ▶ (right) menu browse keys until **Case** is displayed in the lower right corner of the LCD.

Case
Dual<

2. Press the ▼ (down) menu browse key to access the **Case** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

LOC Copy FF

This enables/disables the LOC (Local) Copy FF (Form Feed) option. If enabled, it causes the printer to execute a form feed after the print buffer is completed in an operator-initiated local copy print job. The printer ejects the page and is set to print at column 1, line 1 of the next page. This option overrides FF End Buff to allow the printer to maintain compatibility with application programs designed for earlier printers.

Coax Compat
LOC Copy FF

1. While in the **Coax Compat** menu, press the ◀ (left) or ▶ (right) menu browse keys until **LOC Copy FF** is displayed in the lower right corner of the display.

LOC Copy FF
Disable<

2. Press the ▼ (down) menu browse key to access the **LOC Copy FF** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

FF Before LC

This enables/disables the FF (Form Feed) Before LC (Local Copy) option. If enabled, it causes the printer to execute a form feed before the printer buffer is completed in an operator-initiated local copy print job.

Coax Compat
FF Before LC

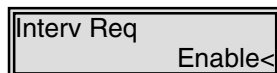
1. While in the **Coax Compat** menu, press the ◀ (left) or ▶ (right) menu browse keys until **FF Before LC** is displayed in the lower right corner of the display.

FF Before LC
Disable<

2. Press the ▼ (down) menu browse key to access the **FF Before LC** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Interv Req

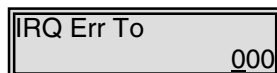
This enables/disables the Interv Req (Intervention Required) option. When enabled, it causes an intervention required message to be sent to the host computer if the printer is busy or in an error condition. The time before sending the Intervention Required message is set by the **Irq Err TO** and **Irq Bsy TO** options.



1. While in the **Coax Compat** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Interv Req** is displayed in the lower right corner of the display.
2. Press the ▼ (down) menu browse key to access the **Interv Req** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Irq Err TO

If the Interv Req option is enabled, the IRQ Err TO value represents the amount of time available to clear an error (such as paper jam or paper out, etc.) before the printer notifies the host computer of the error condition. Each increment represents 5 seconds. The default value of 12 represents 60 seconds.



1. While in the **Coax Compat** menu, press the ◀ (left) or ▶ (right) menu browse key until **IRQ Err TO** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to configure the **Irq Err TO** option.
3. Notice the cursor (underline) is now shown under the first digit. Use the horizontal ◀ ▶ (left or right) menu browse keys to position the cursor (underline) under the digit to be changed; use the vertical ▲ ▼ (up or down) menu browse keys to increment/decrement the selected numeric digit by one.
4. Press the **Clear** key after all changes are complete and the desired value is displayed in the lower right corner of the LCD.

Note

Repeat this section if further changes are necessary.

Irq Bsy TO

If the Interv Req option is enabled and the printer is offline for a period of time exceeding the IRQ BSY To value selected, the LCD display will show “ON HOLD TIMEOUT” and the host will be sent an Intervention Required message.

Coax Compat
Irq Bsy To

Irq Bsy To
000

1. While in the **Coax Compat** menu, press the ◀ (left) or ▶ (right) menu browse key until **IRQ Bsy TO** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to configure the **Irq Bsy TO** option.
3. Notice the cursor (underline) is now shown under the first digit. Use the horizontal ◀ ▶ (left or right) menu browse keys to position the cursor (underline) under the digit to be changed; use the vertical ▲ ▼ (up or down) menu browse keys to increment/decrement the selected numeric digit by one.
4. Press the **Clear** key after all changes are complete and the desired value is displayed in the lower right corner of the LCD.

Note

Repeat this section if further changes are necessary.

CR at MPP+1

This enables/disables a CR at MPP +1 (Carriage Return at Maximum Print Position + 1). If CR at MPP+1 is set to NL and a carriage return is executed at MPP+1, a new line will also be executed. The next print position will be on the next line, column 1. If set to CR, and a carriage return is executed at MPP+1, no additional new line will be executed, and the next print position will be the current line, column 1.

Coax Compat
CR at MPP +1

CR at MPP+1
NL<

1. While in the **Coax Compat** menu, press the ◀ (left) or ▶ (right) menu browse keys until **CR at MPP+1** is displayed in the lower right corner of the display.
2. Press the ▼ (down) menu browse key to access the **CR at MPP+1** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

NL at MPP+1

This enables/disables a NL at MPP+1 (New Line at Maximum Print Position + 1). If NL at MPP+1 is set to LN +2, a new line is executed at MPP +1, and additional new line is executed automatically, the next print position will be in column 1 and down 2 lines. If set to NL, no additional new line is executed at MPP+1, and the next print position will be on column 1 of the next line.

Coax Compat NL at MPP+1

NL at MPP+1 LN+2<

1. While in the **Coax Compat** menu, press the ◀ (left) or ▶ (right) menu browse keys until **NL at MPP+1** is displayed in the lower right corner of the display.
2. Press the ▼ (down) menu browse key to access the **NL at MPP+1** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

FF Data

This enables/disables FF Data (Form Feed Followed by Data). The FF Data option is used to select the action taken if a form feed is received by the printer and it is not the last character in the IBM print buffer. When set to COL 2, the current print position after the form feed will be the second column on line one of the next form. If set to COL 1, the current print position will be the first column on line one of the next form.

Coax Compat FF Data

FF Data Col 1<

1. While in the **Coax Compat** menu, press the ◀ (left) or ▶ (right) menu browse keys until **FF Data** is displayed in the lower right corner of the display.
2. Press the ▼ (down) menu browse key to access the **FF Data** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

FF EndBuff

The FF End Buff option is used to select the action taken if a form feed is received by the printer and it is the last character in the IBM print buffer. When set to LN 2, the current print position after the form feed will be the first column on line two of the next form. If set to LN 1, the current print position will be the first column on line one of the next form.

Coax Compat
FF EndBuff

FF EndBuff
LN 1<

1. While in the **Coax Compat** menu, press the ◀ (left) or ▶ (right) menu browse keys until **FF EndBuff** is displayed in the lower right corner of the display.
2. Press the ▼ (down) menu browse key to access the **FF EndBuff** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Null Sup

If Null Sup (Null Suppression) is enabled and formatted data is received from the host (ignore NL, EM, CR and print spaces instead), then all lines consisting entirely of nonprintable characters (nulls, attributes, and non-display or non-print fields) will be printed as blank lines and a new line executed at the end of the line. The print position after such a line will be on the next line, column one.

Coax Compat
Null Sup

Null Sup
LC/NSCS<

1. While in the **Coax Compat** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Null Sup** is displayed in the lower right corner of the display.
2. Press the ▼ (down) menu browse key to access the **Null Sup** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

FF Pos

This enables/disables FF Pos (Form Feed Position). Form feed commands may be executed anywhere or treated as blanks if they do not occur at MPP+1, the first print position of a line (column one).

Coax Compat
FF Pos

FF Pos
CPP=1<

1. While in the **Coax Compat** menu, press the ◀ (left) or ▶ (right) menu browse keys until **FF Pos** is displayed in the lower right corner of the display.
2. Press the ▼ (down) menu browse key to access the **FF Pos** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Auto Funct

The Auto Funct option is used to specify what action will be taken when the printing of an IBM print buffer is completed. If set to FF (form feed), the printer will automatically execute a form feed at the end of the print buffer or a local copy, unless the last character received was a form feed. If set to NL (new line), and the last character received is not a form feed, new line, or carriage return, a new line will be automatically executed.

Coax Comp
Auto Funct

Auto Funct
NL<

1. While in the **Coax Compat** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Auto Funct** is displayed in the lower right corner of the display.
2. Press the ▼ (down) menu browse key to access the **Auto Funct** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

LAST LF/FF

This enables/disables LAST LF/FF (Last Line Feed Send as Form Feed). When enabled, this option will cause a form feed when the last character in the IBM print buffer is a line feed.

Coax Compat
LAST LF/FF

LAST LF/FF
Enable<

1. While in the **Coax Compat** menu, press the ◀ (left) or ▶ (right) menu browse keys until **LAST LF/FF** is displayed in the lower right corner of the display.
2. Press the ▼ (down) menu browse key to access the **LAST LF/FF** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Supp CCode

This enables/disables Supp CCode (Suppress Host Control Codes). When enabled, suppresses control codes generated by the IBM host.

Coax Compat
Supp CCode

Supp CCode
Disable<

1. While in the **Coax Compat** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Supp CCode** is displayed in the lower right corner of the display.
2. Press the ▼ (down) menu browse key to access the **Supp CCode** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

VCS

This selects a VCS option. Allows emulating Vertical Channel Select commands executing emulation of a 3287 or a 3268/4214 printer.

Coax Compat	VCS
-------------	-----

1. While in the **Coax Compat** menu, press the ◀ (left) or ▶ (right) menu browse keys until **VCS** is displayed in the lower right corner of the display.

VCS	3268/4214<
-----	------------

2. Press the ▼ (down) menu browse key to access the **VCS** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

Comm

The Comm option enables/disables the Extended Attribute Buffer (EAB) and enables/disables the Query Reply. When set to EAB, EAB is enabled, but not Query Reply. When set to QUERY/EAB, EAB and Query Reply are both enabled. In the Disabled state, both EAB and Query Reply are disabled.

Coax Compat	Comm
-------------	------

1. While in the **Coax Compat** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Comm** is displayed in the lower right corner of the display.

Comm	QUERY/EAB<
------	------------

2. Press the ▼ (down) menu browse key to access the **Comm** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

SELECT EMUL

This menu is used to select a printer emulation. This printer can emulate (become functionally similar to) ANSI (4800), ANSI (4410), FX286e, IBM Proprinter, P300/600, DEC LG (Digital Branded models only), PSeries, and DEC PPL3.

Which emulation to use will depend on what control codes and escape sequences will be sent by the host. (See *Programmer's Manual*, for information on each emulation.)



1. While in **Set Up** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Select Emul** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the Select Emul options.
3. Press the ◀ (left) or ▶ (right) menu browse keys until the emulation desired is displayed in the lower right corner of the LCD.
4. Press the **Select** key to select an emulation option. The < symbol will now immediately follow the saved emulation option.

Note

If there is an IBM CX/TX (Coax/Twinax) interface board installed in expansion slot 1 or expansion slot 2, the software in the printer will be either an SCS load which defaults to the SCS filter enabled or an IPDS load, which defaults to the IPDS filter enabled. The Emulation will be ANSI (4800) and the operator is unable to select another Emulation because SCS and IPDS filters must have the ANSI (4800) selected.

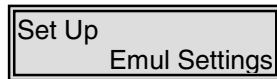
If the printer is not using the Coax or Twinax interface and an Emulation other than ANSI (4800) is desired (i.e. parallel):

Determine which expansion slot contains the installed CX/TX board.

If the printer is an IPDS printer, in the Expansion(n) menu, where (n) is the number of the expansion slot, disable(unselect) the IPDS option. If the printer is an SCS printer, in the Expansion(n) menu, where (n) is the number of the expansion slot, disable(unselect) the SCS option. See Expansion1/Expansion2 on page 41 for procedures to perform this step.

EMUL SETTINGS

This menu is used to select a printer emulation and configure the emulation.

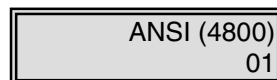
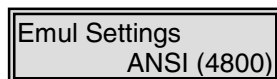


1. While in the **Set Up** menu, press the ◀ (left) or ▶ (right) menu browse key until **Emul Settings** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Emul Settings** submenus.

The following describes accessing the submenus and options:

ANSI (4800)

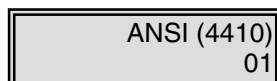
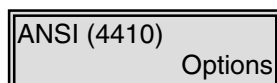
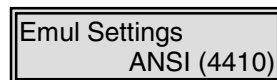
This menu configures the ANSI (4800) emulation. See the **ANSI (4800)** table on page 184 in Appendix G for additional information.



1. While in the **Emul Settings** menu, press the ◀ (left) or ▶ (right) menu browse key until **ANSI (4800)** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to access the settings for **ANSI (4800)**. **ANSI (4800)** will be displayed in the upper left corner of the LCD and **Options** will be displayed in the lower right corner.
3. Press the **Select** key to access the options menu.
4. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an **ANSI (4800)** setting.
5. Press the **Clear**, or ▲ (up) menu browse, key to exit this option.

ANSI (4410)

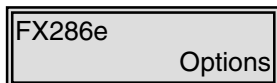
This menu configures the ANSI (4410) emulation. This emulation option is provided for legacy printers. If selected the printer will emulate the GENICOM 4410 or 4440 printer. See the **ANSI(4410)** table on page 184 in Appendix G for additional information.



1. While in the **Emul Settings** menu, press the ◀ (left) or ▶ (right) menu browse key until **ANSI (4410)** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to access the settings for **ANSI(4410)**. **ANSI (4410)** will be displayed in the upper left corner of the LCD and **Options** will be displayed in the lower right corner.
3. Press the **Select** key to access the options menu.
4. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an **ANSI (4410)** setting. The < symbol will immediately follow an enabled setting.
5. Press the **Clear**, or ▲ (up) menu browse, key to exit this option.

FX286E

This menu configures the Epson FX286e emulation. See the **FX286e** table on page **186** in Appendix G for additional information.



1. While in the **Emul Settings** menu, press the ◀ (left) or ▶ (right) menu browse key until **FX286e** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to access the settings for FX286e. **FX286e** will be displayed in the upper left corner of the LCD and **Options** will be displayed in the lower right corner.
3. Press the **Select** key to access the options menu.
4. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable a **FX286e** setting. The < symbol will immediately follow an enabled setting.
5. Press the **Clear**, or ▲ (up) menu browse, key to exit this option.

Proprinter

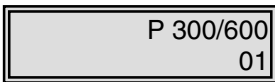
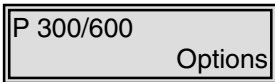
This menu configures the IBM Proprinter emulation. See the **Proprinter III XL** table on page **185** in Appendix G for additional information.



1. While in the **Emul Settings** menu, press the ◀ (left) or ▶ (right) menu browse key until **Proprinter** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to access the settings for **Proprinter**. **Proprinter** will be displayed in the upper left corner of the LCD and **Options** will be displayed in the lower right corner.
3. Press the **Select** key to access the options menu.
4. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable a **Proprinter** setting. The < symbol will immediately follow an enabled setting.
5. Press the **Clear**, or ▲ (up) menu browse, key to exit this option.

P 300/600

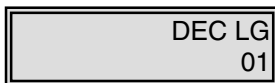
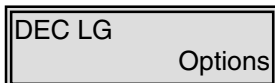
This menu configures the Printronix P 300/600 emulation. See the **Printronix P300/600** table on page **187** in Appendix G for additional information.



1. While in the **Emul Settings** menu, press the ◀ (left) or ▶ (right) menu browse key until **P 300/600** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to access the settings for **P 300/600**. **P 300/600** will be displayed in the upper left corner of the LCD and **Options** will be displayed in the lower right corner.
3. Press the **Select** key to access the options menu.
4. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable a **P 300/600** setting. The < symbol will immediately follow an enabled setting.
5. Press the **Clear**, or ▲ (up) menu browse, key to exit this option.

DEC LG

This menu configures the DEC LG emulation. See the **DEC LG Plus** table on page **187** in Appendix G for additional information.



1. While in the **Emul Settings** menu, press the ◀ (left) or ▶ (right) menu browse key until **DEC LG** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to access the settings for **DEC LG**. **DEC LG** will be displayed in the upper left corner of the LCD and **Options** will be displayed in the lower right corner.
3. Press the **Select** key to access the options menu.
4. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable a **DEC LG** setting. The < symbol will immediately follow an enabled setting.
5. Press the **Clear**, or ▲ (up) menu browse key to exit this option.

Pseries

This menu configures the the Pseries emulation. See the **Printronix Pseries** table on page **187** in Appendix G for additional information.

Note

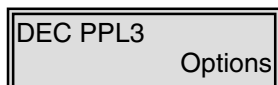
Under the menu option SFCC (Special Function Control Character), the user may define a SFCC character. See the Programmer's Manual for additional information.



1. While in the **Emul Settings** menu, press the ◀ (left) or ▶ (right) menu browse key until **Pseries** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to access the settings for **Pseries**. **Pseries** will be displayed in the upper left corner of the LCD and **Options** will be displayed in the lower right corner.
3. Press the **Select** key to access the options menu.
4. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable a **Pseries** setting. The < symbol will immediately follow an enabled setting.
5. Press the **Clear**, or ▲ (up) menu browse key to exit this option.

DEC PPL3

This menu configures the DEC PPL3 emulation. See the **DEC PPL3** table on page **187** in Appendix G for additional information.



1. While in the **Emul Settings** menu, press the ◀ (left) or ▶ (right) menu browse key until **DEC PPL3** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to access the settings for **DEC PPL3**. **DEC PPL3** will be displayed in the upper left corner of the LCD and **Options** will be displayed in the lower right corner.
3. Press the **Select** key to access the options menu.
4. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable a **DEC PPL3** setting. The < symbol will immediately follow an enabled setting.
5. Press the **Clear**, or ▲ (up) menu browse, key to exit this option.

ENGINE OPTIONS

This menu is used to control the shuttle motor and print wire actuator tiers.

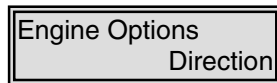
1. While in the **Set Up** menu, press the ◀ (left) or ▶ (right) menu browse key until **Engine Options** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Engine Options** sub-menus.

The following describes the sub-menus and options available:

Direction

This menu is used to control the firing or the print wires in relationship to the swing of the shuttle. Bi-directional mode allows printing during both the left and right shuttle swing (normal operation.)

Printing only in left or right swing of the shuttle is used for troubleshooting and alignment purposes. A slight increase in the quality of printing may be realized using a single-swing option due to the characteristics of the timing.



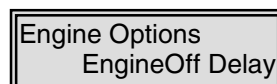
1. While in the **Engine Options** menu, press the ◀ (left) or ▶ (right) menu browse keys until **Direction** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the Direction options.



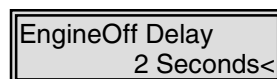
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

EngineOff Delay

This menu is used to set the power-off delay for the shuttle motor. This delay is the time between the moment when no print data is detected and the moment when the shuttle motor is shut off. A short delay time is preferred. If the host is sending data slower than the printer can print, a longer delay may prevent the time lost when the shuttle is turned off and back on again.



1. While in the **Engine Options** menu, press the ◀ (left) or ▶ (right) menu key until **EngineOff Delay** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **EngineOff Delay** options.



3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

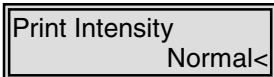
Print Intensity

This menu is used to set the print intensity (striking power) of the print head actuators. Normal intensity is the default setting. It gives excellent print quality while extending the life of the print actuators and the ribbon fabric. High intensity is used when heavy multipart forms show a need for more print impact on the last copy.



1. While in the **Engine Options** menu, press the ◀ (left) or ▶ (right) menu key until **Print Intensity** is displayed in the lower right corner of the LCD.

2. Press the ▼ (down) menu browse key to access the **Print Intensity** options.



3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

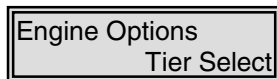
Tier Select

Under normal (non-fault) conditions, the printer uses both the upper Tier 1 and the lower Tier 2 for printing. This menu option allows the user to disable a specific Tier.

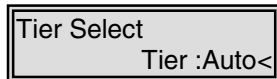
Note

If the printer detects a bad tier, the LCD will read Bad Actuator. Press the Clear key to clear the fault. The printer will electronically turn off the tier where the bad actuator is located. If the bad actuator is located in an area which will not affect the quality of the print job, the user can use TierSelect to force the printer to use both tiers. Using only one tier to print will reduce the print speed.

Use the following procedures to enable/disable an option:



1. While in the **Engine Options** menu, press the ◀ (left) or ▶ (right) menu key until **Tier Select** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Tier Select** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable/disable an option. The < symbol will immediately follow an enabled option.



TEAROFF OPTIONS

This menu is used to modify the tear off feature settings for this printer. The TEAROFF function is to position the paper for tear off at the fanfold perforation; therefore the TEAROFF position is relative to and dependent on the TOF setting and Form Length setting. The default TEAR OFF settings assumes that TOF is set to print the first line at the physical top of the form (just below the fanfold perforation).

The TEAROFF position can be adjusted up to +/- 2 inches from the default value at any time while the TEAROFF function is active using the ↑ up or ↓ down arrow keys on the control panel. The TEAROFF function is active when the display shows TEAROFF, such as after depressing the TEAROFF key.

Adjusting the TEAROFF position does not change the TOF position. However, changing the TOF position does affect the TEAROFF position. Therefore, the TOF should be set prior to adjusting the TEAROFF. (See Setting Top of Form on page 34 for instructions.)

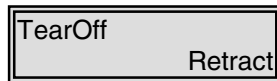
The TEAROFF position is saved to nonvolatile storage and is reset to factory defaults only via the action of the Maintenance | Reset to Deflts | Total Init menu operation. (See Reset to Deflts on page 138 for instructions.)

1. While in the **Set Up** menu, press the ◀ (left) or ▶ (right) menu browse key until **TearOff** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the TearOff submenu options.

The following describes the TearOff sub-menus and options:

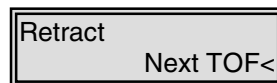
Retract

This menu is used to select the length of the paper retraction. Next TOF will retract the paper to the TOF as currently set for the printer. Full Return will retract the paper only the length of a line return that is currently set for the printer.



1. While in the **TearOff** menu, press ◀ (left) or ▶ (right) menu browse key until **Retract** is displayed in the lower right corner of the LCD.

2. Press the ▼ (down) menu browse key to access the **Retract** options.



3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed. Press the **Select** key to enable or disable an option. The < symbol will immediately follow an enabled option.

HORIZ TAB

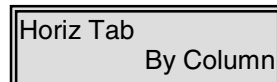
This menu is used to set or clear horizontal tabs. The Horiz Tab may be set By Column, By Inches, or Clear All Tabs.

Note

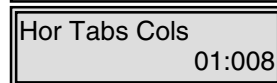
The first two digits represent the tab ID and the last three digits are the tab location. The number of tab IDs available is dependent on the emulation selected. See “Horizontal/Vertical Tab Id Maximum Slots” table in Appendix H.



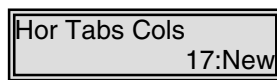
1. While in **Set Up** menu, press ◀ (left) or ▶ (right) menu browse key until **Horiz Tab** is displayed in the lower right corner of the LCD.



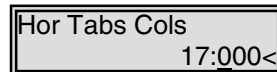
2. Press the ▼ (down) key to access the horizontal tab submenus. Horiz Tab is displayed in the upper left corner of the LCD.



3. Press the ◀ (left) or ▶ (right) menu browse keys and select **Clear All Tabs**, **By Columns**, or **By Inches**. Press the **Select** key to select one of these options. **Hor Tabs Cols**, or **Hor Tabs IN** will be displayed in the upper left corner of LCD.



4. The first 16 columns and inches settings are preset settings and are selected using the **Select** key. The remaining settings are user-set. (Press the **Select** key again to modify the horizontal tab setting). Notice the cursor (underline) is now shown under the first digit and the default number is 000. The four menu browse keys revert to data entry operation. The horizontal ◀ ▶ (left or right) keys position the cursor (underline) under the digit to be changed; the vertical ▲ ▼ (up or down) menu browse keys increment/decrement the selected digit by one. Each time a user-set tab is entered, it is associated with the tab ID that places it chronologically in sequence. For example, by default the first Horizontal tab 01: is set to 008. If the user enters a new tab position of 001, it will be associated with tab ID 01: and 008 will be moved to tab ID 02 and so on until the maximum horizontal tab IDs are used.



5. Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD. Pressing the **Clear** key does not erase the values entered, but does allow the user to exit the User Set menu.

Note

Repeat this section if further changes are necessary.

VERTICAL FORMAT

This menu is used to select either an emulation-dependent vertical format unit (VFU) or a vertical tab table for vertical moves.

Set Up
Vertical Format

Type Select
Vertical Tabs<

1. While in **Set Up** menu, press the ◀ (left) or ▶ (right) menu browse key until **Vertical Format** is displayed in the upper left corner of the LCD.
2. Press the ▼ (down) menu browse key to access the vertical format submenu. **Type Select** is displayed in the upper left corner of the LCD.
3. Press the ◀ (left) or ▶ (right) menu browse keys to select the desired vertical format type.

The following describes the selections available.

Vertical Tabs

This menu is used to clear or set the vertical tab. The vertical tab length may be set By Lines, By Inches or Clear All Tabs.

Note

The first two digits represent the tab ID and the last three digits are the tab location. The number of tab IDs available is dependent on the emulation selected. See “Horizontal/Vertical Tab Id Maximum Slots” table in Appendix H.

Type Select
Vertical Tabs<

Vertical Tabs
By Lines

Vert Tab Lines
01:New

Vert Tab Lines
01:000

1. While in **Type Select** menu, press the ▼ (down) menu browse key. **Vert Tab** will be displayed in the upper left corner of the LCD. (This step assumes Vertical Tabs is the currently selected setting. If not, press the **Select** key to select **Vertical Tabs**.)
2. Press the ◀ (left) or ▶ (right) menu browse keys and select **Clear All Tabs**, **By Lines**, or **By Inches**. Press the **Select** key to select one of these options. **Vert Tab Lines**, or **Vert Tab IN** will be displayed in the upper left corner of the LCD.
3. Press the **Select** key again to modify the vertical tab setting. Notice the cursor (underline) is now shown under the first digit and the default number is 000. The four menu browse keys revert to data entry operation. The horizontal ◀ ▶ (left or right) keys position the cursor (underline) under the digit to be changed; the vertical ▲ ▼ (up or down) menu browse keys increment/decrement the selected digit by one.
4. Press the **Clear** key *after* all changes are complete *and* the desired value is displayed in the lower right corner of the LCD. Pressing the **Clear** key does not erase the values entered, but does allow the user to exit the User Set menu.

Note

Repeat this section if further changes are necessary.

Emulation VFU

Type Select
Emulation VFU

This option sets the Vertical Format for an emulation-dependent vertical format unit (VFU.) The VFU option is for all emulations *except* Proprinter and FX286e. See the **Programmer's Manual** for additional information.

Use the following procedure to select the Emulation VFU option:

- While in **Type Select** menu, press the ◀ (left) or ▶ (right) menu browse key until **Emulation VFU** is displayed in the lower right corner of the LCD. Press **Select** to select **Emulation VFU**.

DISPLAY LAN

This menu selects the LCD language.



1. While in the **Set Up** menu, press the ◀ (left) or ▶ (right) menu browse key until **Display Lang** is displayed in the lower right corner of the LCD.
2. Press the ▼ (down) menu browse key to access the **Display Lang** options.



3. Press the ◀ (left) or ▶ (right) menu browse key until the desired language is displayed in the lower right corner of the LCD.
4. Press the **Select** key to enable or disable an option. The < symbol will immediately follow the enabled option.

CHAPTER 6. USING THE MAINTENANCE MENU

The activities performed under this menu include resetting the printer to defaults, alignment, head service, power on time and print time settings, upgrade software functions, and ribbon monitor functions.

Main Menu Maintenance

While in the **Offline** State, press the ▼ (down) menu browse key to enter the **Main Menu**. Press the ◀ (left) or ▶ (right) menu browse key until **Maintenance** menu is displayed in the bottom right corner of the LCD. **Main Menu** will be displayed in the upper left corner of the LCD.

To move up or down a level of menu options, press the ▲ (up) or ▼ (down) menu browse keys. To move laterally among options on the same level, use the ◀ (left) or ▶ (right) menu browse keys.

Currently selected menu options are displayed in the LCD with a < symbol, which follows immediately to the right of the menu option. Some menu options are toggle options and reflect an enabled or disabled condition. Press the **Select** key to cause the printer to perform this operation.

Press the **Clear** key to return to the upper level menu or to **Offline** state when in a first-level menu.

RESET TO DEFLT

Reset the printer to factory defaults or re-initialize certain groups of printer settings.

Note

Before proceeding with resetting the printer, have a printout of the printer's current settings. This will provide a record of settings which may need to be restored after initializing. See the "Show" option on page 41 (Chapter 4 Using the Operator Menu) for additional information.

Maintenance
Reset to Deflts

Reset to Deflts
USA

1. While in the **Maintenance** menu, press the ◀ (left) or ▶ (right) menu browse key until **Reset to Deflts** is displayed in the lower line of the LCD.
2. Press the ▼ (down) menu browse key to access the reset to defaults options.
3. Press the ◀ (left) or ▶ (right) menu browse key to select either **USA** or **International**.
4. Press the ▼ (down) menu browse key to access either USA or International reset options.
5. Press the ◀ (left) or ▶ (right) menu browse key to select the type of **Reset to Deflts** option desired.

Note

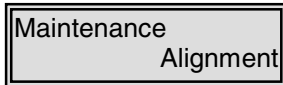
The All Interfaces option will reset all interface settings to the factory default settings. The All Formats option will reset all previously saved formats to factory defaults. The All Emulations option will reset all emulation settings to factory default settings. The Total Init option will reset all interfaces, all formats, and all emulations to factory default settings.

6. Press the **Select** key to reset the printer to factory defaults. The printer momentarily displays **STARTUP** in the LCD and will complete a power-up sequence. After completion of a power-up sequence, printer returns to an Online status.
7. If the printer was operating before initialization, it may need to be reconfigured for the specific task at hand. After achieving proper configuration, print a set of status reports and save for future reference.

ALIGNMENT

This menu and its sub-menus are used to make printing adjustments.

Use the following procedures to select this option:

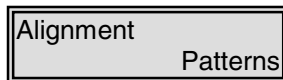


1. While in the **Maintenance** menu, press the ◀ (left) or ▶ (right) menu browse key until **Alignment** is displayed in the lower right corner of the LCD.
2. Press the **Select** or ▼ (down) menu browse key to access the **Alignment** options.

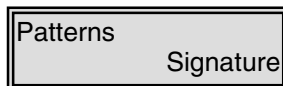
The following describes the options available:

Patterns

Print the patterns used for adjustments. There are six available patterns. Signature will print a small sample of each of the other five patterns. The Amplitude Pattern is used to adjust the amplitude. The Horizontal Timing, Vertical Timing, and Checkerboard Patterns are verification patterns. The Inter-module Gap Pattern is used to verify correct print head mounting.



1. While in the **Alignment** menu, press the ◀ (left) or ▶ (right) menu browse key until **Patterns** is displayed in the lower right corner of the LCD.



2. Press the **Select** or ▼ (down) menu browse key to access the **Patterns** options.
3. Press the ◀ (left) or ▶ (right) menu browse key until the desired pattern option is displayed.



4. Press the **Select** key to select a pattern to print. **CLR to Stop** will be displayed in the lower right corner of the LCD.
5. Press the **Clear** key to stop printing the pattern. Press the **On Line** key to return the printer to the Local menu status or press the **Clear** key to move backwards up a level.

Software Rev: 44A109056
Model No: 5180
Serial No. _____
Date: _____

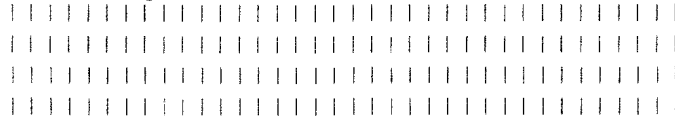
Amplitude Pattern (Amplitude Adjust)



Horizontal Timing Pattern (Verification Pattern)



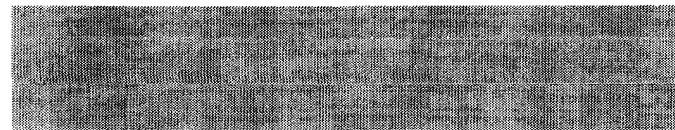
Vertical Timing Pattern (Verification Pattern)



Inter-module Gap Pattern (Print Head Mounting)



Checkerboard Pattern (Verification Pattern)



SIGNATURE PATTERN SAMPLE

AdjustAmplitude

Adjust the amplitude of the printer. The correct amplitude pattern consists of columns of six dots. The goal of the amplitude adjustment is to bring the six lines being printed into perfectly spaced vertical lines. The amplitude pattern should not have any gaps or overlapping.

Alignment
AdjustAmplitude

1. While in the **Alignment** menu, press the ◀ (left) or ▶ (right) menu browse key until **AdjustAmplitude** is displayed in the lower right corner of the window.

2. Press the **Select** key, or the ▼ (down) menu browse key, to access the **AdjustAmplitude** options.

AdjustAmplitude
Pattern

3. Press the ◀ (left) or ▶ (right) menu browse key until the **Pattern** is displayed in the lower right corner of the LCD.

4. Press the **Select** key to print the pattern to adjust the amplitude.

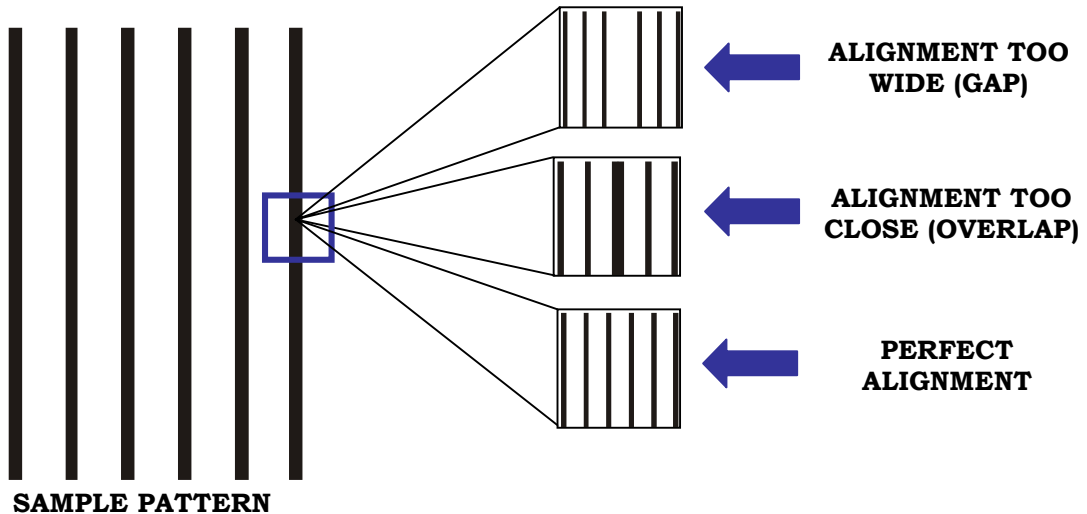
5. Use the ◀ (left) or ▶ (right) menu browse keys to adjust the amplitude while the pattern is printing.

6. Press the **Clear** key to stop printing the pattern.

AdjustAmplitude
Save Amplitude

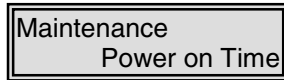
7. Press the ◀ (left) or ▶ (right) key until **Save Amplitude** is displayed in the lower right corner of the LCD.

8. Press the **Select** key to save the amplitude adjustment.



POWER ON TIME

Display the total elapsed time that the printer has had power applied to it.



Maintenance
Power on Time

1. While in the **Maintenance** menu, press the ◀ (left) or ▶ (right) menu browse key until **Power On Time** is displayed in the lower right corner of the LCD.

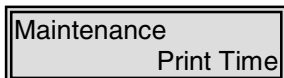


Power on Time
HHHHH:MM:SS

2. Press the **Select** key to display the **Power On Time**. In the example to the left, HHHHH represents hours, MM represents minutes, and SS represents seconds.
3. Press the **Clear** key to return to the previous display.

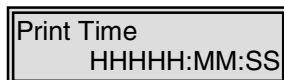
PRINT TIME

Display the total time the shuttle motor has run.



Maintenance
Print Time

1. While in the **Maintenance** menu, press the ◀ (left) or ▶ (right) menu browse key until **Print Time** is displayed in the lower right corner of the LCD.



Print Time
HHHHH:MM:SS

2. Press the **Select** key to display the **Print Time**. In the example to the left, HHHHH represents hours, MM represents minutes, and SS represents seconds.
3. Press the **Clear** key to return to the previous display.

RIBBONMONITOR

When this option is enabled, monitoring the ribbon life and resetting the ribbon counter using the Operator menu. See New Ribbon on page 41 (Chapter 4. Using the Operator Menu) for additional information.

Maintenance
Ribbon Monitor

1. While in the **Maintenance** menu, press the ◀ (left) or ▶ (right) menu browse key until **RibbonMonitor** is displayed in the lower right corner of the LCD.
2. Press the **Select** key or the ▼ (down) menu browse key to access the **RibbonMonitor** options.

RibbonMonitor
Disable<

3. Press the ◀ (left) or ▶ (right) menu browse key until the desired option is displayed in the lower right corner of the LCD.
4. Press the **Select** key to enable an option. The < symbol will immediately follow an enabled option. **EOL Limit** and **EOL Warning** are user set options.

EOL Limit
000M

Press the **Select** key while **EOL Limit** or **EOL Warning** is displayed in the lower right corner of the LCD. Notice the cursor (underline) is now shown under the first digit. The horizontal ◀ ▶ (left or right) menu browse keys to position the cursor (underline) under the digit to be changed; the vertical ▲ ▼ (up or down) menu browse key increment/decrement the selected digit by one.

Press the **Clear** key *after* all changes are complete **and** the desired value is displayed in the lower right corner of the LCD. When the printer is online, the LCD window will display the EOL value remaining for monitoring purposes.

Note

Repeat this section if further changes are necessary. The valid range of values for EOL Limit is between 30 and 120. The valid range of values for EOL Warning is between 0 and 29.

The EOL Limit allows setting the End of Life Limit value for the Ribbon. Although setting a limit other than the EOL recommended for a ribbon is allowed, the current EOL types available are 50M and 75 M.

The EOL Warning allows setting the End Of Life Warning value for the ribbon. This warning does not cause a fault. It is a monitoring function only.

HEADSERVICE

Check the amount of usage for the individual print heads and to reset the print head counters. The printer keeps track of how many times each print head is fired during printing and displays this information on a graph.

Maintenance HeadService

1. While in the **Maintenance** menu, press the ◀ (left) or ▶ (right) menu browse key until **HeadService** is displayed in the lower right corner of the LCD.
2. Press the **Select** or ▼ (down) menu browse key to access the **HeadService** options.

The following describes the options available:

Dot Counts

The dot counters for the print heads can be reset to zero. This procedure is normally used after the installation of a new print head. Resetting this counter arbitrarily is not recommended because this counter is used to track print head life.

Note

Make sure the correct print head number is displayed before clearing the counter. Once a counter is reset to zero, it cannot be set back to its original count.

HeadService Dot Counts

1. While in the **HeadService** menu, press the ◀ (left) or ▶ (right) menu browse key until **Dot Counts** is displayed in the lower right corner of the LCD.

Select to Reset XX:nnnnnnnn

2. Press the **Select** key to access the **Dot Counts** option. The individual print head number will be displayed followed by the number of times the individual print head has been fired. In the example to the left, XX represents the print head number and nnnnnnnn represents a number. Use the ◀ (left) or ▶ (right) menu browse key to locate the desired print head counter.
3. Press the **Select** key to reset the count.

Note

Repeat this section as often as necessary to reset a print head counter.

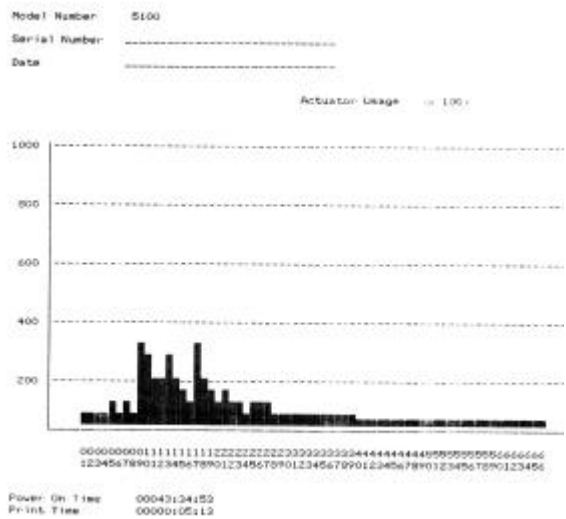
Print Chart

Print a graph of the number of times individual print heads have been fired.

HeadService
Print Chart

Print Chart
CLEAR to Stop

1. While in the **HeadService** menu, press the ☐ (left) or ☐ (right) menu browse key until **Print Chart** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to print the print chart. **CLR to Stop** will be displayed in the lower right corner of the LCD.



PRINT CHART SAMPLE

Actuator Status

Identify an actuator failure.

HeadService
Actuator Status

Actuators Failed
None

1. While in the **HeadService** menu, press the ☐ (left) or ☐ (right) menu browse key until **Actuator Status** is displayed in the lower right corner of the LCD.
2. Press the **Select** key to display the failed actuator. If no actuator has failed, the word **None** will be displayed in the lower left corner of the LCD. If there is a failed actuator, the tier number and the number of the failed actuator will be displayed in the lower left corner of the LCD.

UPGRADE FLASH

This menu is used to place the printer in a mode where it receives data which is a software upgrade. There are two options available, Onboard Flash and SIMM Flash. The Onboard Flash option is used to upgrade the onboard printer code, which resides on the printer's LPCU (Line Printer Control Unit) board. Selecting the SIMM Flash option will upgrade the printer code residing on the external SIMM Flash. See Appendix F on page 176 for complete upgrade installation instructions.

Note

Make sure the printer is connected to the host before proceeding.

Maintenance
Upgrade Flash

Upgrade Flash
Onboard Flash

Upgrade Status:
Ready

1. While in the **Maintenance** menu, press the ◀ (left) or ▶ (right) menu browse key until **Upgrade Flash** is displayed in the lower right corner of the LCD.
2. Press the ◀ (left) or ▶ (right) menu browse key until the desired upgrade option is displayed in the lower right corner of the LCD.
3. Press the **Select** key to upgrade the printer. **Ready** will be displayed in the lower left corner of the LCD. (See Appendix F for the Software Upgrade procedures and additional information.) To exit this function without upgrading the software, cycle the power to the printer.

CHAPTER 7. OPERATION AND MAINTENANCE

INTRODUCTION

These shuttle matrix printers are designed so that preventive maintenance is **not** required. There are **no** lubrication requirements; therefore, operator maintenance is minimal.

OPERATOR CLEANING PROCEDURES

Clean the printer as necessary. The area where the printer is located, the amount of usage, and the type of paper used all affect how often cleaning is required.

1. Turn the power switch off and disconnect the power cord from the AC source.
2. Turn the print gap wheel to the **LOAD** position and remove the paper.
3. Turn the ribbon locking lever to the **LOAD** position and remove the ribbon cartridge.
4. If necessary, rotate the control panel to the open position.
5. Loosen the two thumbscrews and remove the print module access panel. See Figure 7-1.

Caution

Use extreme care while cleaning around the ribbon shield area. The shield is constructed of thin metal and the edges are sharp.

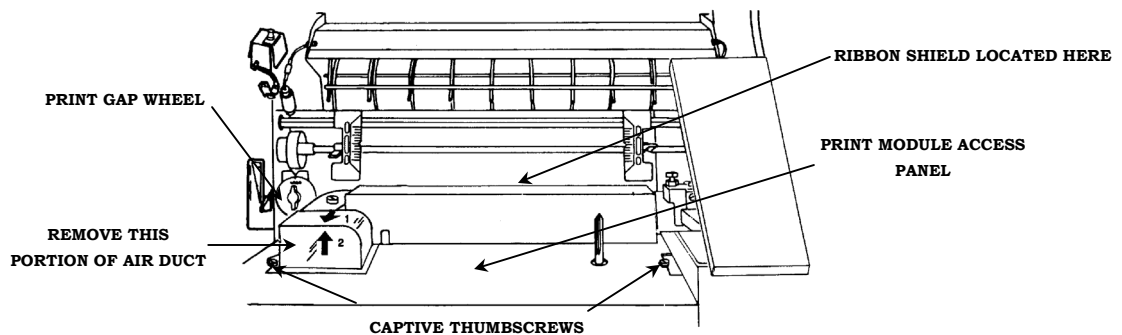


Figure 7-1 Removing Print Module Access Panel

6. Vacuum the print head area using a soft bristle brush to dislodge paper debris. Wipe away any accumulation of dust from the ribbon shield and striker bar area.
7. Blow dust out of, or away from, the paper jam sensor on the upper left tractor.
8. Blow dust out off or away from, the paper out sensor on the lower left tractor.

9. Blow dust out of, or away from, the ribbon weld sensor located on the left of the print heads.
10. Vacuum any paper debris that has accumulated inside the paper storage area.
11. Vacuum both the top and bottom side of the print module access panel. Make sure the ribbon motion sensor is clean.
12. Reinstall the print module access panel making sure both thumbscrews are tightened.
13. Inspect the ribbon fabric for wear before reinstalling the ribbon cartridge.
14. Clean the outside surfaces of the printer with a clean damp cloth. Dampen the cloth with water. Do not use cleaning solutions. Always dry the outside cabinet surfaces with a clean dry cloth.
15. Reconnect the power cord and apply power to the printer for operation.

OPERATOR TROUBLESHOOTING

Many of the operating faults that can occur are operator-correctable. They are often related to an incorrect setup, wrong adjustment, or the need to replenish consumables.

Initializing the Printer – Newly installed parts or options, power fluctuations, static buildup, or errant electrical signals may cause the printer electronics to lock up. Initializing the printer will clear this problem as long as no damage has been done. (See “Chapter 3 - Initializing the Printer”).

Use the initialization procedure when:

- Inputs to the control panel are ignored or misinterpreted.
- The printer performs unexplained actions or ignores commands.
- The printer misinterprets valid commands from the host.

The remainder of this chapter is divided into the following sections and contains information as a help guide through possible problems.

TABLE 7-1 – Soft Fault Displays, lists display messages that may appear that do not stop the printer.

TABLE 7-2 – Miscellaneous Non-Fault Messages

TABLE 7-3 –Hard Fault Displays, lists display messages that may appear when printing has stopped unexpectedly. It also lists the probable cause and/or the action needed to clear the fault.

TABLE 7-4 – Electrical Problems, as a guides when the display, keys, or an incorrect data printout is the problem.

TABLE 7-5 – Mechanical Problems, addresses problems with paper feeding, print quality, and incorrect adjustments.

TABLE 7-6 – Diagnostic Fault Codes, shows and explains the faults that may be detected during self-test diagnostics.

TABLE 7-7 – Serial Interface Errors

Print Head module Replacement – Step-by-step replacement instructions and information that may keep the printer online if a replacement print head is not immediately available.

Soft Faults

When a soft fault occurs, printing stops, and operator intervention is required.

Some change in the data being sent to the printer may be required (See *Programmer's Manual*).

If a wire driver or print head actuator fails, (see the first two displays in Table 7-1), printing may continue without damage to the printer (see the section on print head replacement).

Press the **CLEAR** key to clear the display.

Either **Online** or **Local** will be displayed in upper left corner of the display window. The following fault messages will be displayed in the lower right corner of the display window:

TABLE 7-1
Soft Fault Displays

DISPLAY	MEANING	CORRECTIVE ACTION
Change Ribbon	The Ribbon monitor feature has detected the specified number of dots has been printed for the current ribbon.	Press the CLEAR key to ignore this warning and continue printing or replace the current ribbon. Reset the ribbon count through the operator menu, if Ribbon Monitor is enabled.
Service Time	Service time was set to zero or the timer has failed.	Press the Clear key to clear the fault.
Paper Almost Out	Low paper print mode.	Press the Clear key to enter Low Paper printing mode or replace the paper supply.
VFU Missing TOF	Missing TOF in the VFU load sequence.	Press the Clear key to clear the fault. Verify data being sent to the printer by the host system.
VFU PI Lead	Paper Instruction lead: The menu option for PI lead selection is set incorrectly.	Press the Clear key to clear the fault. Change the PI Lead setting using the set up menu options.
Invalid VFU Seq	There is an invalid character(s) in the VFU load sequence.	Press the Clear key to clear the fault. Verify data being sent to the printer by the host system.
VFU Tbl Too Long	The VFU table length has been exceeded.	Press the Clear key to clear the fault. Verify data being sent to the printer by the host system.
Paper Out	Paper supply is depleted.	Load paper and set top of form. The paper out sensor is reset when paper is inserted in the lower tractors and the CLEAR key is pressed.
Paper Jam	No paper movement has been sensed by the paper motion sensor.	Check for paper jam and clear using the following procedure: Turn the print gap wheel to the LOAD position and physically clear the paper jam. Reload paper and readjust right side tractors, paper tension and gap. Press the CLEAR key to clear display Clean the paper motion sensor located on the upper left tractor.

TABLE 7-1
Soft Fault Displays (Continued)

No Ribbon	Ribbon cartridge is missing, installed incorrectly, or damaged.	Install Ribbon. See “Installing Ribbon” in Chapter 2.
Ribbon Jam	Ribbon has stopped moving.	1. Remove the ribbon cartridge. 2. Clean the ribbon motion sensor. 3. Inspect and reinstall the ribbon cartridge. • Press the CLEAR key to clear the fault.
Ribbon Weld	A specified amount of time has passed without detecting the ribbon weld passing. The ribbon may be jammed or broken.	Check the ribbon. If necessary, replace ribbon. See “Replacing Ribbon” in Chapter 2.
Ribbon Weld Pass	The ribbon weld is passing by the actuators while the printer is suspended.	Press the Clear key to clear the fault.
Striker Bar Open	Print gap wheel turned to the OPEN position.	Adjust for proper paper gap.
Array Failure	Print Module Failure	Cycle power to the printer. Go to Maintenance Menu Head Service and identify failed print module.
Driver Circuit	All actuators on an entire tier failed.	Press the Clear key to clear the fault. Replace print modules on printer. See “Print Module Replacement” on page 159 for procedures.

Miscellaneous Non-Fault Messages

The following displays indicate printer status:

Either **Online** or **Local** will be displayed in upper left corner of the display window. The following fault messages will be displayed in the lower right corner of the display window:

Table 7-2
Miscellaneous Non-Fault Messages

DISPLAY	MEANING
Ready	The serial interface CB lead is true.
Standby Mode	Printer deselected by host via received DC3.
Tearoff	Paper is in position for tear off at rear paper exit.

Hard Faults

When a hard fault occurs, the printer will be rendered inoperative. Operator intervention may correct the fault, however service may be required. Correct the condition causing the fault, if possible, and press the **CLEAR** key to restore printer operation.

TABLE 7-3
Hard Fault Displays

DISPLAY	MEANING	
Driver Circuit	All actuators on an entire tier fail.	Call for Service.
Shuttle Overload	Shuttle drive motor is stalled or overloaded.	Check for interference caused by a paper jam or print gap adjusted too tight. If problem continues, call for service.
Low Power	Power supply has sensed low line voltage or is temporarily overloaded by continuous high density printing.	Check for irregular voltage from power source. If problem continues, call for service.
Image Logic Fail	No image logic dot request processed for 5 seconds.	Try to clear fault by cycling power and initializing the printer. If problem continues, call for service.
NVRAM Reinit	NVRAM has been initialized.	Press the Clear key to continue. If problem continues, call for service.
No Font	No printable font found in printer.	Try to clear fault by cycling power and initializing. If fault does not clear, call for service.
Bad Wire Driver	A defective wire driver has been found (see Note 1).	Move or replace actuator modules. If problem continues, call for service.
Bad Actuator	A print head actuator has been found (see Note 1).	Press the Clear key to clear the fault. Move or replace actuator modules. If problem continues, call for service.
LEFT FAN	The left print head fan in the ribbon deck has failed.	Call for service.
LEFT CENTER FAN	The left center print head fan in the ribbon deck has failed.	Call for service.
RIGHT CENTER FAN	The right center print head fan in the ribbon deck has failed.	Call for service.
RIGHT FAN	The right print head fan in the ribbon deck has failed.	Call for service.
REAR FAN	The rear fan for the logic circuit boards has failed.	Call for service.
VFU Fmt Inactive	A VFU load sequence has been received and the printer is in "Vertical Tab" mode instead of "Emulation VFU" mode. The sequence will be discarded.	Press the Clear key to clear the fault. The Vertical Format mode is selectable from the SetUp menu.

Note 1: When a defective wire driver or actuator is found, use the Maintenance Menu to find the position of the bad actuator, position (1-66 for 1800-lpm). (Also see Chapter 6 "Using the Maintenance Menu" for additional information.)

Electrical Problems

Use Table 7-4 when problems are experienced with the display, keys, or data printouts.

TABLE 7-4
Electrical Problems

PROBLEM	POSSIBLE CAUSE/CORRECTIVE ACTION
No indication on the display panel when power is turned on.	• Make sure that the power cord is securely plugged into the printer and wall outlet. • Check for power at the wall outlet using a known good appliance. • Check the thumbscrews on the print module access panel. • Check the printer for a blown fuse.
Some keys are inoperative.	• Normal if printer is online. • Offline: Printer may be locked up. Try to print a status sheet as future reference for printer settings. • Recycle the power to the printer and initialize the printer.
Printer does not respond correctly to key commands.	• Invalid configuration may be causing printer to lock up. Turn power off for 15 seconds, and then back on. If problem persists, initialize the printer.
Incorrect or no printout.	• Check interface cable connections. • Selected speed (baud rate) may not be compatible with host. Reset serial interface data rate. • Parity selected may not be compatible with host. Reset serial interface parity type. • Interface settings may not be compatible with host. Recheck settings and compare to host protocol settings.

Mechanical Problems

Use Table 7-5 when problems are experienced with paper feeding and print quality.

TABLE 7-5
Mechanical Problems

PROBLEM	POSSIBLE CAUSE/CORRECTIVE ACTION
Paper does not feed properly.	- Paper supply in lower enclosure not aligned properly. - Paper snagging on box. Cut top of box off. - Paper not loaded properly. Reload paper and check tractors for proper adjustment.
Paper tearing, paper “walking” out of tractors, elongation of paper pin holes.	- Excessive tension on paper. - Readjust paper tension lever, readjust print gap wheel, check right side upper and lower tractors for correct lateral paper tension.
Paper jammed.	- Paper jams are most often caused by incorrect paper tension (see above) or misaligned tractors or paper. - Turn the print gap wheel to the LOAD position and physically clear paper jam. - Reload paper, readjust right side tractors, paper tension, and gap. - Press CLEAR key to print buffered data and to clear display.
Light printing.	- Ribbon worn. Install a new ribbon. - Paper gap too large. Turn print gap wheel for a smaller gap.
Ribbon droops on one side during printing or outer columns of print missing.	- Ribbon cartridge improperly installed. Check installation by repeating installation procedure. - Print heads too close to paper. Adjust paper gap setting for thicker paper.
Weak or absent printing in some columns, light or missing dots in adjacent columns, poor print quality in a narrow zone of the print area. Bad Actuator or Driver Circuit may be displayed.	- Check for loose cable connection on print head actuators. Bad Actuator indicates that an actuator or the driver circuit controlling that actuator has failed the printer’s test of the circuit. Try replacing the actuator. Driver Circuit is displayed when the printer’s self test determines that <i>ALL</i> of the actuators or wire drivers are defective. - When either of these occur, call for service. Continue to use printer if light or missing dots can be tolerated temporarily.

Self-Test Error Messages

Self-test diagnostics are run:

- During the power-on sequence.
- After initialization by either the control panel keypad.
- After printing.
- When requested from the host by the ESC Q escape sequence.
(See *Programmer's Manual* for information on escape sequences.)

The following table shows the display message, fault, and error message. (The error message is used only when requested by ESC Q - See note.) The fault column indicates which circuit board is defective.

NOTE

The error message is used only in the ANSI emulation while using the serial interface. When an ESC Q escape sequence is received, the printer performs a self-test and sends the appropriate error message to the host if a fault is found. DCS = ESC P and ST = ESC \. See *Programmer's Manual* for information on the ANSI emulation and escape sequences.

TABLE 7-6
Diagnostic Fault Codes

DISPLAY	FAULT	CORRECTIVE ACTION
Self Test	Self-test in progress.	None.
TTMI error	Invalid response from TTMI board.	Call for service.
TTMI noresp	No response from TTMI board.	Call for service.
TTMI checksum	TTMI board ROM checksum failure.	Call for service
Shuttle Error	Shuttle cannot stabilize.	Check for paper jam or print gap adjustment. If either condition does not exist, call for service.
Loading----- Please Wait.....	Self-test completed with no errors found, printer software is loading.	None.

SERIAL INTERFACE ERRORS

If the host does not stop sending data when the printer reports busy, the input buffer will eventually fill to capacity. Any additional data sent by the host will be discarded and an error condition will exist. This error may be reported to the operator via GenPtrOpts (Group 1) strap 16. See “GenPtrOpts” in Chapter 4 and General Printer Options Group 1 table on page 179 in Appendix G for additional information.

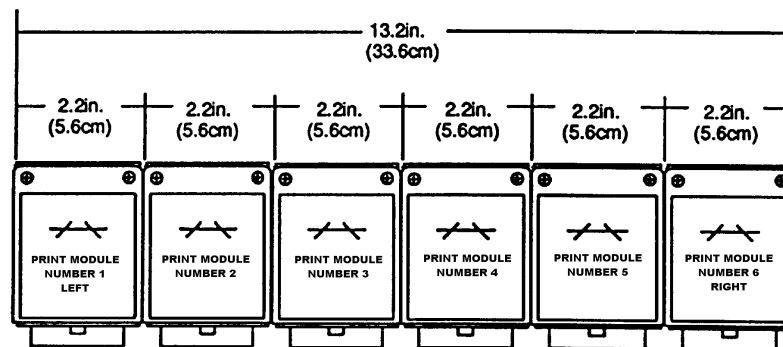
Parity, Framing and UART overrun characters will be replaced in the data stream with the “*” character.

Strap 16	Type of Error	Display/Print Message	Action performed
Disabled	Parity Error	Parity Error	Replace character with “*”
Disabled	Framing Error	Framing Error	Replace character with “*”
Disabled	UART Overflow Error	UART Overflow	Replace character with “*”
Disabled	Buffer Overflow Error	Buffer Overflow	Lost data after end of Buffer

When Strap 16 is enabled, the action performed is the same as Strap 16 disabled, but a message is displayed **and** printed. The printer is placed in an off line condition. Press the **CLEAR** key to continue.

PRINT MODULE REPLACEMENT

The six print actuator modules are identical. If a replacement module is temporarily unavailable, rearrange the modules so that the defective one is located in an area that is least likely to be used. Relocating the defective module to the far right end of the shuttle would still allow a full 11-inch line (110 characters at 10 cpi) to be printed starting at the left.



Note

Do not operate the printer with a module removed. All six modules must be in place with their connectors secured to maintain shuttle balance.

Replacement Procedure

Any of the six print modules may be removed and replaced without special tools or equipment. A coin or screwdriver may be used to loosen a single screw on each module, but a screwdriver is preferred to avoid dropping a coin into the printer.

To remove and replace a print module, complete the following steps:

1. Turn the printer power off and disconnect the power cord from the AC source.
2. Open the top access cover and set the print gap wheel to the **LOAD** position.
3. Remove the ribbon cartridge.
4. Loosen the two captive thumbscrews (see Figure 7-1) and tilt the print module access panel out of the way.
5. Remove the section of air duct nearest you by pulling back and then up. The duct snaps on and off. See Figure 7-1.

Note

Print modules must be removed in order from left to right, and replaced in reverse order. For example, to remove the number 3 module, remove the left module first, number 2 module next, and then the third module.

When assembling, the rightmost module that was removed must be installed first, followed by the next module, and so on, until the left module is in place.

6. Disconnect the two flat ribbon cables from the modules to be removed. See Figure 7-2.

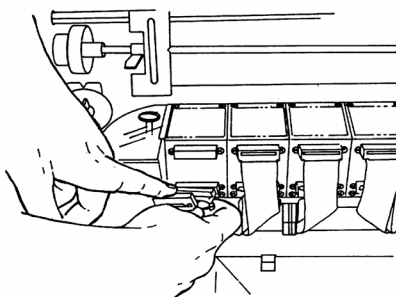


Figure 7-2 Removing Print Head Cables

Caution

Do not attempt to completely unscrew the thumbscrew securing the print module. Damage to the retaining clips will result.

7. Use a screwdriver to loosen the knurled-head screw of the modules to be removed.
8. Rotate each module to be removed, in turn, forward slightly and lift to remove. See Figures 7-3 and 7-4.

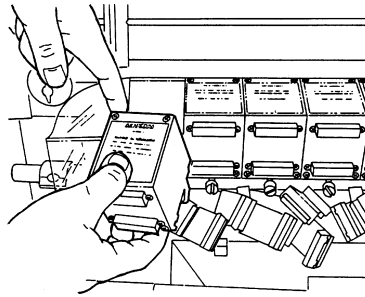


**Figure 7-3
Removing First Print Module**

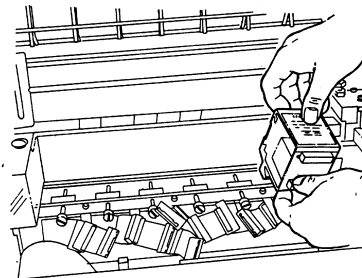


**Figure 7-4
Removing Number 6 Print Module**

Note

Before reinstalling the print actuator modules, be sure the module mounting surface and wire guides are free of foreign matter (ribbon and paper dust.)

9. Replace the modules in reverse order of removal. Holding the module tilted back slightly, place it on the mounting surface and rotate it forward.
 - Slide each module towards the right as far as it will go. Hold it towards the right until the screw is tightened to prevent print gaps between modules.
 - Use a screwdriver to securely tighten the screw.
10. Reconnect the ribbon cables to the modules.

11. Replace the portion of air duct removed earlier.
12. Lower the print module access panel into position and tighten the two thumbscrews.

Note

The thumbscrews must be threaded properly and tight to actuate the AC interlock switch.

13. Install the ribbon cartridge.
14. Turn the print gap wheel to the desired setting (normally 1 for single part forms) and close the top access cover.
15. Reconnect the power cable to the AC source and turn the power switch to the on position.

Resetting Print Head Counters

The printer keeps track of how many times each print head is fired during printing and displays this information on a graph.

Counters should be reset only when a new print head has been installed.

Note

Make sure the correct print head number is displayed before clearing the counter. Once a counter is reset to zero, it CANNOT be set back to its original count.

Use the following procedure to reset the counters:

1. Press the **On Line** key to place printer offline or in local mode.
2. Press the ▼ (down) menu browse key to access the menus.
3. Press the ◀ (left) or ▶ (right) menu browse key until **Maintenance** is displayed in the lower right corner of the display window.
4. Press the ▼ (down) menu browse key to access the **Maintenance** menu options. **HeadService** will be displayed in the lower right corner of the display window.
5. Press the ▼ (down) menu browse key to access the **HeadService** options.
6. Press the ◀ (left) or ▶ (right) menu browse key until **Dot Counts** is displayed in the lower right corner of the display window.
7. Press the **Select** key to access the **Dot Counts** option. The individual print head number will be displayed followed by the number of times the individual print head has been fired. In the example to the left, XX represents the print head number and nnnnnnnnnn represents a number. Use the ◀ (left) or ▶ (right) menu browse key to locate the desired print head counter.
8. Press the **Select** key to reset the count. Repeat this step as often as necessary to reset a print head counter.

Main	Maintenance
------	-------------

Maintenance	HeadService
-------------	-------------

HeadService	Dot Counts
-------------	------------

Select to Reset	XX:nnnnnnnnnn
-----------------	---------------

APPENDIX A. UNPACKING INSTRUCTIONS



UNPACKING (5180 52 dBa MODEL)

1. Cut only the two shipping straps that hold the shipping package to the pallet. See Figure A-1.
2. Carefully slide the shipping package and its contents off of the pallet. Move the pallet from the unpacking area.
3. Now cut the two remaining shipping straps that surround the shipping package. See Figure A-2.
4. Lift the top off the shipping package.

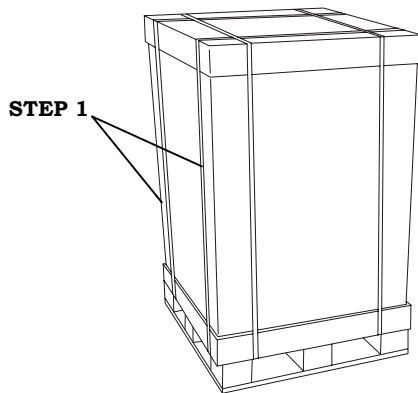


FIGURE A-1

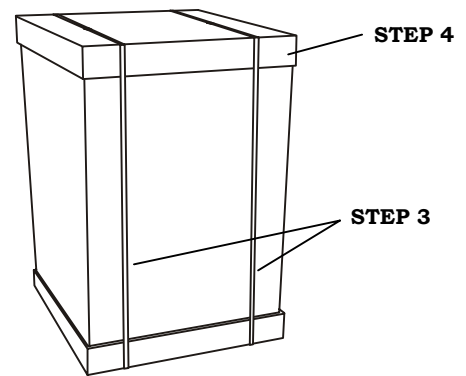


FIGURE A-2

5. Remove the packing material from the top of the printer. See Figure A-3.
6. Lift out the single panel of the shipping package sleeve. See Figure A-3.
7. Now remove the remaining 3-sided package sleeve and the packing material. See Figure A-3.

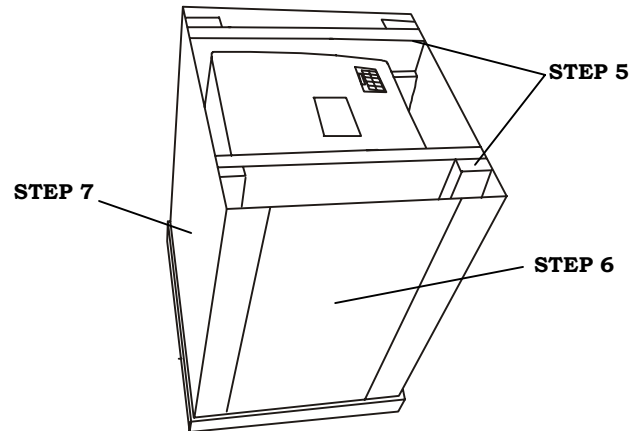


FIGURE A-3

8. Cut the front and back corners of both sides of the shipping package base so that the cardboard will lay flat. See Figure A-4.
9. Cut the plastic bag free from the shipping blocks on each side (taking care to not scratch or cut the printer) and remove from the printer.
10. Tilt the printer slightly from the side where the cardboard was cut and kick the packing block (see figure A-4) out from under the printer. Carefully lower the printer. Repeat to remove the packing block from the opposite side.

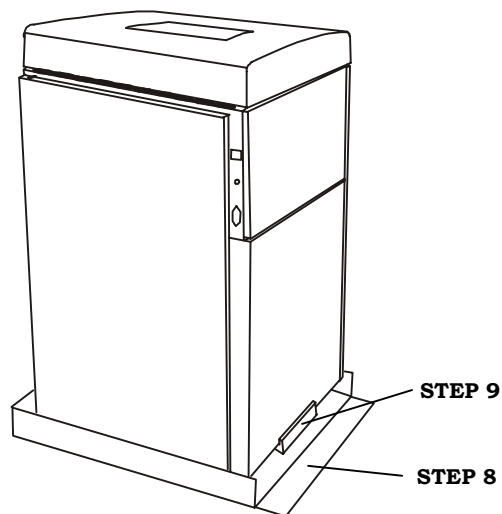


FIGURE A-4

11. Roll the printer off the base of the shipping package.
12. Open the top cover of printer and remove the sheet of packing material covering the control panel.
13. Next, remove the foam packing block from between the paper guides by cutting the plastic tie.
14. This completes the instructions for removing the printer from its packing materials. Chapter 2. Getting Started in the 5180 User's Manual includes instructions for removing the shipping blocks and hardware.



UNPACKING (5180 55 dBa MODEL)

Unpacking the printer consists of removing the outside covering packing material, packaged contents of the paper storage area, and removing the shipping hardware.

Use the following instructions to remove the printer from its packing materials:

1. Cut and remove the two shipping straps from the shipping pack, as shown in Figure A-5, and slide the shipping pack off of the wooden skid.
2. Cut the tape holding the flaps closed on top of the shipping sleeve and open flaps. See Figure A-5.

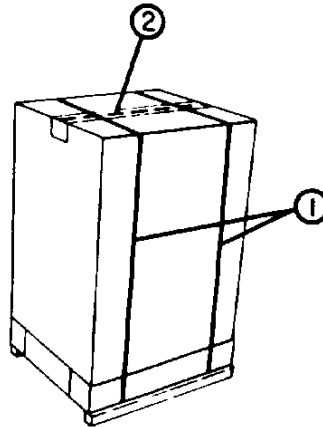


FIGURE A-5

3. Cut all four corners of the base tray so that the tray lays flat. See Figure A-6.
4. Slit the packing sleeve from top to bottom along one corner. Remove and discard sleeve. See Figure A-6.

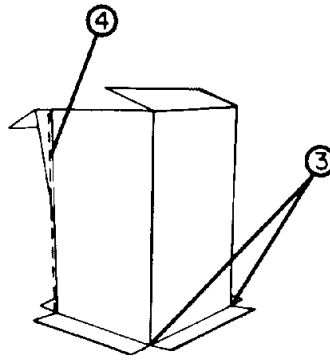


**FIGURE A-6
SLIT AND REMOVE
PACKING SLEEVE**

5. Remove all pieces of polystyrene foam except those under the printer. Refer to Figure A-7.

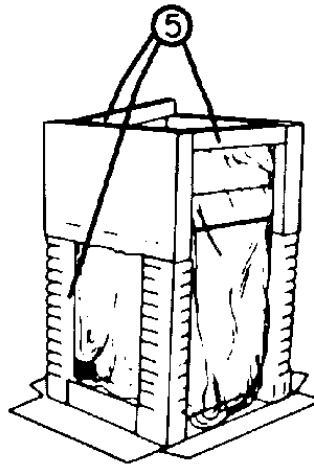


**FIGURE A-7
REMOVE POLYSTYRENE
FOAM PACKING**

6. Remove and discard the plastic shroud from the printer as shown in Figure A-8.

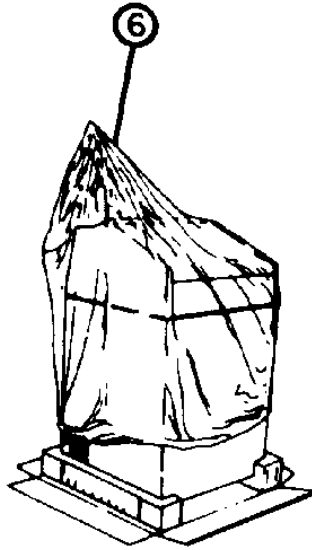


FIGURE A-8

7. Tilt the printer to one side and kick the section of foam out from under the printer. Slowly lower the printer back onto the base tray. See Figure A-9.
8. Repeat step 7 for the opposite side. Roll the printer off the base tray.

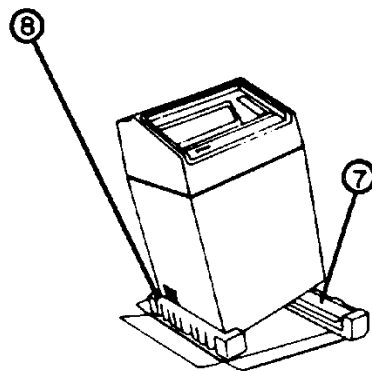


FIGURE A-9

Note

Save packing material and hardware for reuse during any future reshipment. Packing sleeve (step 4) and plastic shroud (step 6) are not reusable.

9. Open the printer's front door (hinged at left side). Remove the paper rack, paper shelf, power cable, ribbon cartridge, and User's Manual.
10. This completes the instructions for removing the printer from its packing materials. Chapter 2. Getting Started in the 5180 User's

Manual includes instructions for removing the shipping blocks and hardware.

Repacking

If this product needs to be repackaged for shipment to another location or for servicing, contact an authorized sales representative for a field repacking kit.

APPENDIX B. PAPER SPECIFICATIONS

The printer is designed to use edge-punched (sprocket-fed) fanfold paper. See diagram below. multipart forms should be free of staples or stitching and preferably held together with glue or self-crimping techniques. They need to be of uniform thickness from side-to-side. In the case of special forms and gummed labels, it is best to consult a forms supplier for help in selecting the best forms construction and to try a sample to ensure satisfactory operation. The chart on the next page lists forms that should provide satisfactory performance.

Paper widths from 3 inches (76.2 mm) to 16.54 inches (420.1 mm) and form lengths from 0.3 inch (8.4 mm) to 22 inches (559 mm) can be accommodated. Fanfolds between 5.5 and 12 inches (139.7 and 304.8 mm) apart are recommended.

Note

High humidity may cause unsatisfactory paper feeding and handling. Low humidity may cause static buildup. Make sure you test how well the forms feed under various ambient conditions. Some recycled papers have a higher content of dust and debris, which may require more frequent cleaning of the printer.

The most satisfactory performance from the printer can be achieved with paper of the recommended weights as shown below.

RECOMMENDED PAPER WEIGHTS

Number of Parts	Recommended Paper Weight	Weight of Carbon Insert Sheet
1	15 lb (56 g/m ²)	
2, 3, or 4	13.5 lb (50 g/m ²)	5 lb (19 g/m ²)
5 or 6	12 lb (45 g/m ²)	5 lb (19 g/m ²)

Recommended maximum weight for single-ply paper is 24 lb. (90 g/m²). Maximum forms thickness should not exceed 0.025 inches (0.613 mm). Printing materials up to 125# Tag (226 g/m²) or 110# Index (199 g/m²) can be handled.

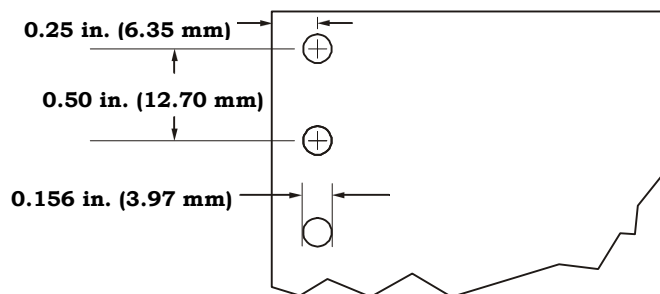


FIGURE B-1 SPROCKET HOLE DETAILS

Company	Catalog Number	Description
Avery	4162	Clear Label, One-wide 3 1/2" X 15/16"
Moore	J21147	24-lb White Wove Envelope with Keen Edge
	J13706	24-lb White Wove Envelope
	J21105	24-lb Ivory Laid Textured Envelope
	8530SG	One-wide Tab Card, Computer Punch Card
	1530SG	Two-wide Tab Card, Computer Punch Card
	1412T, 1412TC	One-part 11" X 14 7/8" 15-lb
	1412T, 1412RH	Two-part 11" X 14 7/8" 15-lb
	1412T, 1412TQ, 1412RH	Three-part 11" X 14 7/8" 15-lb
	1412T, 1412TE	Four-part 11" X 14 7/8" 15-lb
	1412T	Five-part 11" X 14 7/8" 15-lb
	1412T, 1412TQ, 1412NP	Six-part 11" X 14 7/8" 15-lb
	TC7	110-lb Time Cards
	21022	20-lb Laid Textured
	13557	Six-part Self-Mailer
	13060	Seven-part Universal Mailer
	13086	Two-wide 3" X 5" Card 100-lb. White Tag Stock
	29264	Mini-printer Label 3 1/2" X 15/16"
	1410Q	Two-part 14 7/8" X 11"
	1410CKP	One-part 14 7/8" X 11"
	8510	One-part 8 1/2" X 11"
	8512TQ	Three-part 8 1/2" X 11"
	8512TQ	Six-part 8 1/2" X 11"
	13078	3" X 5", 100-lb. White Tag Stock
	9510J	Four-part 9 1/2" X 11"
	9510CK, 9510J, 9510CJ	One-part 9 1/2" X 11"
	1182T	One-part 11 3/4" X 8 1/2"
	1280J, 1280CK	One-part 12" X 8 1/2"
	1482TA, 1488TH	One-part 14 7/8" X 8 1/2"
	NNSY 4430/26	Four-part 9 1/2" X 11"
	P1-9511-15-00	One-part 9 1/2" X 11" 15-lb
	P1-9511-20-00	One-part 9 1/2" X 11" 20-lb
	13805	One-part 20-lb.
	28084	Label, One-wide 3 1/2" X 15/16"
	28118	Label, Two-wide 3 1/2" X 15/16"
	28142	Label, Three-wide 3 1/2" X 15/16"
	28183	Label, Four-wide 3 1/2" X 15/16"
NCR	2-10-L6	6-part Self-Mailer
	6240174082	8-1/2" X 11" Carbonless 5-part
	211093	Single-part 11" X 14 7/8" 15-lb

APPENDIX C. CONSIDERATIONS FOR OPERATION

- Voltage: 120 VAC and 240 VAC $\pm 15\%$ auto range seeking.
- Frequency: 48 to 65 Hz.

Power Consumption:

	1800-LPM
Idle	50 Watts
Printing	674 Watts

- Dissipated Power (maximum):
- 1800-LPM 1167 Watts = 3997 BTU/hour

Weight:

	Cabinet Model	Unboxed	Boxed
	5180 (55 dBA)	320 lbs. 145 kg	404 lbs. 138 kg
	5180 (52 dBA)	420 lbs. 191 kg	462 lbs. 210 kg

Overall size:

	Cabinet Model	Physical Size (HxWxD)
	5180 (55 dBA)	48 x 29 x 25 in. 1219 x 737 x 635 mm
	5180 (52 dBA)	42 x 30 x 29 in. 1080 x 760 x 725 mm



An additional 20 inches of clearance is required in the rear of the 5180 (52 dBA) Cabinet Model printer to open the rear cabinet door.

Paper Handling:



5180 (55 dBA) Cabinet Model – allow an additional 17 inches of clearance in the rear of the printer for the paper handling shelf option.

Operating Environment:

Temperature 39 to 104° F to 40° C
Humidity 15 to 90% noncondensing

Note

For UK installations, a 10-amp fuse must be installed on the mains lead.

APPENDIX D. PARTS, ACCESSORIES, CONSUMABLES AND OPTIONS

The items listed below are available from an authorized GENICOM distributor, service agent, or from GENICOM headquarters at the following address:

GENICOM Corporation
Parts Sales
1 Genicom Drive
Waynesboro, Virginia 22980-1999
1-800-535-4364
FAX: (540) 949-1890
Electronic Bulletin Board: (540) 949-1576

(Check for current printer drivers and the updated replacement and spare part listings)

Additional information is also available on the Internet at the following URL:

<http://www.genicom.com/drivers/index.htm>

When ordering, specify description, part or catalog number, and quantity desired. (Have the model number of the printer available).

Ribbon Part Description	Part or Catalog Number
5180 Ribbon Cartridge (75 M)	44A509160G03
5180 Ribbon Cartridge (125 M) Long Life	44A509160G02
5180 Ribbon Cartridge (50 M) IR Readable	44A509160G04
5180 Ribbon Cartridge Fast Drying – Special Applications	44A509160G08

APPENDIX E. FONT PRINT SAMPLES

The following samples were printed at 10 characters per inch (CPI) at 6 lines per inch (LPI). Chapter 3 and 4 has complete information on available font styles and CPI/LPI settings.

HIGH SPEED FONT

```
0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdef
123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefg
23456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefgh
3456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghi
456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghij
56789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijk
6789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijkl
789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijklm
```

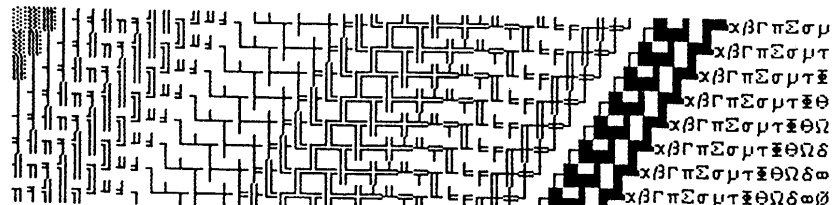
GOTHIC DRAFT – DATA PROCESSING FONT

```
0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdef
123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefg
23456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefgh
3456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghi
456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghij
56789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijk
6789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijkl
789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijklm
```

GOTHIC NEAR LETTER QUALITY

```
0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdef
123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefg
23456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefgh
3456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghi
456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghij
56789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijk
6789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijkl
789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefghijklm
```

CHARACTER GRAPHICS FONT



αβγπΣσμ
αβγπΣσμτ
αβγπΣσμτξ
αβγπΣσμτξθ
αβγπΣσμτξθΩ
αβγπΣσμτξθΩδ
αβγπΣσμτξθΩδω

CORRESPONDENCE FONT

(BETTER QUALITY THAN DRAFT-BETTER SPEED THAN NLQ)

0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdef
123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg
23456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefgh
3456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghi
456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghij
56789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghijk
6789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghijkl
789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghijklm

OCR-A FONT

0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`Habcdef
123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`Habcdefg
23456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`Habcdefgh
3456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`Habcdefghi
456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`Habcdefghij
56789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`Habcdefghijk
6789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`Habcdefghijkl
789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`Habcdefghijklm

OCR-B FONT

0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdef
123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg
23456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefgh
3456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghi
456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghij
56789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghijk
6789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghijkl
789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghijklm

COURIER NLQ FONT

0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdef
123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg
23456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefgh
3456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghi
456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghij
56789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghijk
6789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghijkl
789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghijklm

ITALIC NLQ FONT

0123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdef
123456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefg
23456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefgh
3456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghi
456789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghij
56789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghijk
6789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghijkl
789:;<=>?@ABCDEFGHIJKLMN0PQRSTUVWXYZ[\]^_`abcdefghijklm

HIGH SPEED 2

0123456789:;<=>?@ABC !"#%&'()*+,-./0123456789:;<=>?@ABCDEFI
123456789:;<=>?@ABC !"#%&'()*+,-./0123456789:;<=>?@ABCDEFGI
23456789:;<=>?@ABC !"#%&'()*+,-./0123456789:;<=>?@ABCDEFGH
3456789:;<=>?@ABC !"#%&'()*+,-./0123456789:;<=>?@ABCDEFGHI
456789:;<=>?@ABC !"#%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJ
56789:;<=>?@ABC !"#%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJK
6789:;<=>?@ABC !"#%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKL

CANADIAN PST



APPENDIX F. FLASH UPGRADE INSTRUCTIONS

This printer is equipped with flash memory. Should an upgrade be necessary, a PC may be used to load the upgrade using the printer's parallel port.

Note

Upgrades may be performed using another interface port, such as Ethernet, Twinax, Coax, etc. Substitute the appropriate drive letter and interface port for the type of interface used for upgrading the printer.

1. Load the new flash software file <filename.lod> to a convenient folder on a PC storage media, such as the "C:" hard drive.
2. Connect a six foot Centronics parallel cable from the PC's LPT1 port to the standard parallel port on the back of the printer.

Detach any other cables that may be connecting the printer to a host computer in order to prevent possible data transmission problems.

Use the following steps to perform a flash software upgrade:

Note

Make sure the printer is connected to the host to be used for upgrading code before proceeding.

Place the printer in a status to receive a flash upgrade using the following procedure:

1. Put the printer in the OFFLINE state using the OFFLINE/ONLINE control panel key.
2. Select **Menu**, then **Maintenance** using the menu browse keys.
3. In the **Maintenance** menu, press the ◀ (left) or ▶ (right) menu browse key until **Upgrade Flash** is displayed in the lower right corner of the display window.
4. Press the ◀ (left) or ▶ (right) menu browse key until upgrade flash option is displayed in the lower right corner of the LCD.
5. Press the **Select** key to upgrade the printer. **Upgrade Status:** will be displayed in the upper left corner of the display window and **Ready** will be displayed in the lower left corner of the display window. To exit this function without upgrading the software, cycle the power to the printer.

Maintenance
Upgrade Flash

Upgrade Flash
On board Flash

Upgrade Status:
Ready

Use the following procedure to continue the upgrade flash procedure:

5. Bring up a DOS window on your PC. Change to the directory where the upgrade file was stored. At the DOS command line in the PC type the following command:

copy/b <filename>.lod> LPT1:

<filename> is the name of the upgrade. **.lod** is the extension.

Note

Instructions for performing upgrade software procedures are also available via the Internet at <http://www.genicom.com/drivers/genicom.htm>

6. Press the Return (also known as Enter) key on the PC. Monitor the LCD display for error messages.
7. When upgrade is complete, the printer will automatically re-initialize and return to an online status. If the printer does not re-initialize, disconnect the cable from the host and recycle the printer power.

On Board Software to External Flash SIMM

To make a copy of the onboard software to an external flash perform the following:

1. Power off the printer.
2. Install a 2 Mbyte Flash SIMM.
3. Power on the printer while simultaneously pressing the **Select** and **Clear** keys.

To copy software from Flash SIMM back to onboard memory perform the following:

1. Power off the printer.
2. CCU board jumper J1 should be in the 1-2 position which sets the printer to operate using the Flash SIMM software.
3. Power on the printer while simultaneously pressing the **Select** and **Clear** keys.

Note

If the printer is running IBM software, the IBM software is located on the external Flash SIMM. Do not perform a copy from the external Flash SIMM to onboard memory due to software limitations.

APPENDIX G. DESCRIPTION OF STRAPPING OPTIONS

This appendix contains descriptions for firmware strap settings, which are changed using the Set Up menu. See “Using the Set Up Menu” in Chapter 5 for procedures to enable/disable an option.

GENERAL PRINTER OPTIONS DEFINITIONS

Group 1

Straps	Function	If Active	If Inactive
01	TOF set move forward	Use forward motion.	Use reverse motion.
02	Define Paper Low	Paper out fault.	Paper low fault.
03	Deselect on Paper Low	Enable if 02 is enabled.	Disabled.
04	Auto low paper print to end of last sheet	Override 02 and 03.	Disabled.
05	Paper Jam Fault	Unreported.	Reported.
06	Reverse paper motion	Permitted on Paper Low.	Causes Paper Out Fault.
07	Autoview feature	Enabled.	Disabled.
08	Enable TTMI kick start	Enabled.	Disabled.
09	Truncate slews at TOF	Enabled.	Disabled.
10	Ribbon weld fault.	Disabled	Enabled.
11	Descending draft characters	Descending	Non-descending.
12	Descending NLQ characters	Descending.	Non-descending.
13	CPI reset at font change	CPI reset to 10 cpi.	CPI retained.
14	Derive 12 cpi	From 10cpi.	From 13 cpi.
15	Derive 15 cpi	From 16 cpi.	From 13 cpi.
16	Enable Serial I/F error print	Display/print serial I/F errors.	“*” for Serial I/F errors.
17	Alarm LED	LED reflects Online/Local/Fault	LED reflects Faults only
18-32	Reserved for future use.		

Group 2

Straps	Function	If Active	If Inactive
01	Repeat bell during fault	Repeated bell.	Single bell.
02	Disable bell	Disabled.	Enabled.
03	Enable slashed zero.	Slashed zero	Normal zero.
04	Power-up state	Online state.	Local state.
05	Power-up in last state	Use last state.	Use strap 4.
06	Menu exit condition	Exit after 1 minute.	No exit on inactivity.
07	Top-of-Form control	Disable TOF on remote.	Enable TOF on remote.
08	Received DC1-DC3 operation	Select/Deselect..	No Select/Deselect..
09	Substitute EURO character (8859-X at 0XA4)	Substitute EURO character.	No EURO substitution.
10	Page mode imaging	Enabled.	Disabled.
11	Paper at top of Bar Code after printing	Top of BC after print..	No position change after BC.
12	Staggered Barcodes	Enable.	Disable.
13	Paper at top of OVERSIZE after printing	Top of Oversize after print.	No position change after Oversize.
14	Substitute EURO character (all pages at 0XFE - Windows)	Substitute EURO character.	No EURO substitution.
15	Rotate Bar Code Mode	Rotate relative to orientation.	Rotate about portrait x, y.
16	Force bar code new page	Move to new page if BC > bottom margin.	Disable forced new page.
17	Multi-Tier Optimization	Sparse data.	Dense Data.
18	Disable OverStrike	Disable.	Enable.
19	Function to sync the current form from an interface switch to the true physical position on the page	Enable.	Disable.
20	Allow function of strap 19 on the same interface if a timeout occurred.	Will force a new form	Will not force a new Form.
21	Buffering	Enables reduced buffering.	Normal buffering is used.
22-32	Reserved for future use.		

LEGACY PARALLEL HARDWARE STRAP DEFINITIONS

Strap meanings are the same for Centronics, DP (Short) and DP (Long). However, the straps are set individually for each. If Centronics and DP (Short) are both installed, each must be setup separately.

I/F Hardware Straps

H Bits 01-32	Function	If Enabled	If Disabled		
01	Prime	High = Buffer Clear.	Low = Buffer Clear.		
02	Interrupt	On all Control Codes.	Disabled on all Control Codes, except LF, VT, FF, CR, DC1 and DC3.		
03	DEL	Does not cause an Interrupt.	Causes an Interrupt.		
04	DEL	Does not cause Prime.	Causes Prime.		
05-06	Reserved.				
07	Underline character	Treated as CR.	Printed.		
08	PI Lead	Causes Interrupt.	Does not cause Interrupt.		
09	ACK lead	Does not reflect ONLINE/LOCAL status. 05 must be enabled.	Reflects ONLINE/LOCAL status.		
10	Character conversion to space.	Enabled. (See 41-48.)	Disabled.		
11	CR	Not decoded.	Generate an Interrupt.		
12	FF	Not decoded.	Generate an Interrupt.		
13	LF	Not decoded.	Generate an Interrupt.		
14	VT	Not decoded.	Generate an Interrupt.		
15	DC3	Not decoded.	Generate an Interrupt.		
16	DC1	Not decoded.	Generate an Interrupt.		
17	Busy	Does not reflect ACK.	Reflects ACK.		
18	Busy/Demand per character.	Enabled.	Disabled.		
19	Software control of Busy.	Disabled	Enabled.		
20	Busy	Does not reflect (ONLINE/LOCAL) FAULT/PO status.	Reflects (ONLINE/LOCAL) FAULT/PO status.		
21	Busy	Does not reflect (FAULT) ONLINE/LOCAL status.	Reflects (FAULT) ONLINE/LOCAL status.		
22	Busy	Does not reflect (PO) ONLINE/LOCAL/PO status.	Reflects (PO) ONLINE/LOCAL/PO status.		
23	ACK	Does not reflect PO.	Reflects PO.		
24	ACK	Does not reflect FAULT.	Reflects FAULT.		
25	Data leads	0-7 are active high.	0-7 are active low.		
26	Busy is active	High.	Low.		
27	PI is active	High.	Low.		
28	PI	Enabled.	Disabled.		
29	STB is active	High.	Low.		
30	SELECT is active	High.	Low.		
31	PO is active	High.	Low.		
32	FAULT is active	High.	Low.		
H Bits 33-64	Function	If Enabled.	If Disabled		
33	Demand delay.	Disabled.	Enabled.		
34-35	Set ACK delay from Strobe.		34	35	Delay
			Disable	Disable	None
			Disable	Enable	1 μsec
			Enable	Disable	2 μsec
			Enable	Enable	3 μsec
36-37	Set ACK Pulse Width.		36	37	Width
			Disable	Disable	None
			Disable	Enable	1 μsec
			Enable	Disable	2 μsec
			Enable	Enable	3 μsec
38-40	Reserved.				
41-48	Used with strap 10 to select space character substitution. 41 corresponds with Bit 1 of the character code.				
49-64	Reserved.				

LEGACY PARALLEL SOFTWARE STRAP DEFINITIONS

I/F Software Straps

Bits 01-32	Function	If Enabled	If Disabled
01-03	Reserved for future use.		
04	Prime on Select.	Disabled.	Enabled.
05	No Fault on PO or Deselect.	Disabled.	Enabled.
06-07	Reserved for future use.		
08	8 bit Data.	Enabled.	Bit 8 equals 0.
09-32	Reserved for future use.		
Bits 33-64	Function	If Enabled	If Disabled
33-39	Reserved for future use.		
40	Parallel timeout.	Disabled.	Enabled.
41-64	Reserved for future use.		

EMULATION OPTION DESCRIPTIONS

ANSI (4800)

Options	Meaning if Active	If Active	If Inactive
01	Oversize and Bar code	Select via SI/SO.	No selection via SI/SO
02	RCC mode	Reset RCC mode.	Set RCC mode
03	ESC C control	Disable ESC C sequence.	Reset when ESC C is received.
04	Reserved.		
05	Reserved.		
06	GENCIC control	Set (80-8F as control).	Reset (80-9F per GENCS2).
07	GENCS2 control	Set (80-9F, 15, print).	Reset (80-9F ignore)
08	Line grid control	LF = next LPI grid	LF = LF
09	Dbl strike/shadow control	Double Strike	Shadow.
10	Character Graphics/Postnet	Char Graphics in SCR[2] esc[12m.	Canad. Postnet in SGR[2] esc[12m.
11-32	Reserved.		

ANSI (4410)

Options	Function	If Active			If Inactive		
01	SI/SO selects Oversize and Bar code	Select..			Ignore SI/SO.		
02	Reserved.						
03	ESC C control	Disable ESC C sequence.			Reset when ESC C is received.		
04	Reserved.						
05	Reserved.						
06	GENCIC control	Set (80-8F as control).			Reset (80-9F per GENCS2).		
07	GENCS2 control	Set (80-9F, 15, print).			Reset (80-9F ignore).		
08	Line grid control	LF = next LPI grid.			LF = LF.		
09	Dbl strike/shadow control	Double Strike			Shadow.		
10	Character Graphics/Postnet	Char Graphics in SCR[2] esc[12m.			Canadian. Postnet in SGR[2] esc[12m.		
11	Bit 8 control	8th bit is alternative font..			8th bit selects 256 character offset.		
12	Reserved.						
13-16	Alternate Font Selection Defaults	13	14	15	16	SGR	Font Name
		Disable	Disable	Disable	Disable	10	Gothic Draft
		Enable	Disable	Disable	Disable	11	Gothic Draft
		Disable	Enable	Disable	Disable	12	Char Graphics
		Enable	Enable	Disable	Disable	13	Gothic NLQ
		Disable	Disable	Enable	Disable	14	Courier NLQ
		Enable	Disable	Enable	Disable	15	High Speed
		Disable	Enable	Enable	Disable	16	OCR-A NLQ
		Enable	Enable	Enable	Disable	17	OCR-B NLQ
		Disable	Disable	Disable	Enable	18	Italics NLQ
		Enable	Disable	Disable	Enable	19	Correspondence
17-32	Reserved						

Proprinter III XL

Options	Function	If Active	If Inactive
01	RESERVED (Slashed Zero)	Copy of ENG_OP_SLASH_ZERO from GenPtrOpts Strap 3).	
02	Line Length	8 inches.	13.2 inches.
03	Condensed Print	12 cpi.	20 cpi.
04	Initial Code page	Multinational.	USA.
05	Character Set Select default	Character set 2.	Character set 1.
06	Default Form Length	12" Form.	11" Form.
07	Reserved	Copy of AUTOLF_ON_CR from Print Control Menu..	
08	Reserved	Copy of AUTOOCR_ON_VM from Print Control Menu.	
09	NLQ II	Can use mulitnational.	No multinational.
10	Reserved	Copy of AUTOOCR_ON_LF from Print Control Menu..	
11	Reserved	Copy of AUTOOCR_ON_FF from Print Control Menu.	
12	Esc I	Ignore Esc I command	Process Esc I command
13	Simulate 136	Simulate 136 columns.	Standard 132 columns.
14-32	Reserved		

EPSON FX286e

Options	Function	If Active	If Inactive
01	Condensed Print.	Enabled	Disabled.
02	Italics font control	Codes 128-255 are Code Page.	Codes 128-255 are Italics.
03	Default Print Quality	Default print quality is NLQ.	Default print quality is draft.
04	Default Perf Skip	1 inch perf skip default.	No perf skip default.
05	ESC I	Ignore ESC I command	Process ESC I command
06	136 Col.	Simulate 136 columns	Standard 132 columns
07-32	Reserved		

Printronix Pseries

Options	Function	If Active	If Inactive
01	Overstrike	Enabled.	Disabled.
02	ACK selects LPI for 1 line	10.3 LPI.	8 LPI.
03	VFU load	PI required for VFU load.	No PI required for VFU load.
04	Defines codes 80 to 9F	80 to 9F hex are printable.	80 to 9F hex are control codes.
05	Backspace	= Backspace.	= Double High.
06-32	Reserved.		

Printronix P300/600

Options	Function	If Active			If Inactive		
01	Edit Line (Carriage Return)	= Carriage Return.			Edit mode.		
02	Restrict LPI	To 8.			Non-restricted LPI.		
03-12	Reserved.						
13-16	Alternate Font Selection Defaults	13	14	15	16	SGR	Font Name
		Disable	Disable	Disable	Disable	10	Gothic Draft
		Enable	Disable	Disable	Disable	11	Gothic Draft
		Disable	Enable	Disable	Disable	12	Char Graphics
		Enable	Enable	Disable	Disable	13	Gothic NLQ
		Disable	Disable	Enable	Disable	14	Courier NLQ
		Enable	Disable	Enable	Disable	15	High Speed
		Disable	Enable	Enable	Disable	16	OCR-A NLQ
		Enable	Enable	Enable	Disable	17	OCR-B NLQ
		Disable	Disable	Disable	Enable	18	Italics NLQ
		Enable	Disable	Disable	Enable	19	Correspondence
17-32	Reserved						

Dec LG Plus

Options	Function	If Active	If Inactive
01	Unsolicited Reporting	Enabled (See strap S-2).	Disabled (default).
02	Unsolicited status report size	Extended unsolicited reports.	Brief unsolicited reports. (default).
03	User Preference	= Latin 9 (Euro Ready)	= DEC Supplemental (default).
04-32	Reserved.		

Dec PPL3

Options	Function	If Active	If Inactive
01	ISO Latin9	Enabled.	Disabled.
02-32	Reserved.		

APPENDIX H. INTERFACE EMULATION COMPATIBILITY

PRINTER INTERFACES

Parallel and Serial Interfaces

The printer has bi-directional IEEE-1284, RS-232 serial and RS-422 balanced voltage serial interfaces as standard. The RS-232 and RS-422 options share the same 25-pin, D connector. An additional two optional interfaces may be added, which can include Ethernet, IBM Twinax/Coax, Data Products Long Line, Data Products Short Line, and Legacy Centronics. See Figure 2-2 on page 1 for the location of the optional interface slots.

All of the installed interfaces are active in the default Multisource setting of the Select I/F menu (under Set Up Menu | I/F Settings). The exception is the necessary selection of either RS-232 (default) or RS-422 options as the serial interface. If desired, selecting only one installed interface causes the printer to ignore other data sources that may be connected to the printer.

Each interface has its own input buffer. If the filters are enabled, each enabled filter represents 16K bytes of additional buffer capacity in series with the associated interface buffer.

Multisource Timeout

In the Multisource setting, data is printed from the first port at which data is received. When no further data is received at that port, after a period of seconds, other ports are serviced on a first-come, first-serve basis. This period of time may be adjusted via the Delay Seconds option located in Set Up Menu | I/F Setting | Multisource. See page 71 for instructions to modify this setting. The default is three seconds.

IEEE 1284 Bi-directional Parallel Port

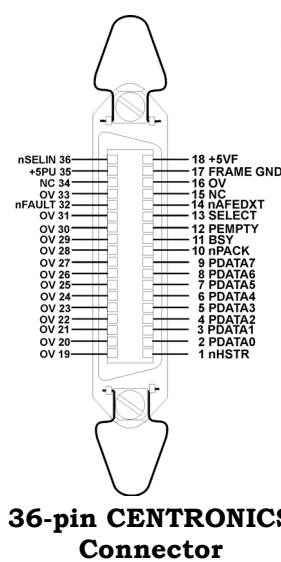
The parallel port is IEEE 1284 nibble-mode compliant. The standard minimum bi-directional function is used to report make and model to 1294-compliant hosts. A plug-and-play system such as Windows® uses this information to check for the appropriate printer driver. To a non plug-and-play operating system, such as a traditional Centronics host, the parallel port appears to be a traditional Centronics port. The protocol is Busy-by-Character and ACK during busy. The input buffer size is fixed at 8.2K bytes, but any filters which have been enabled and associated with this port represents 16K bytes additional buffer capacity per filter.

Historically, line printers enabled a multitude of parallel-port user-adjustments. IEEE-1284 compliance, however, imposes constraints. For this reason, the only characteristic of this port, which is user-controlled is whether the nFAULT signal is true on a paper-out

condition. The default is true. To change signal polarities such as ACK delay, ACK duration or other previously adjusted settings, the optional Legacy Centronics interface needs to be installed.

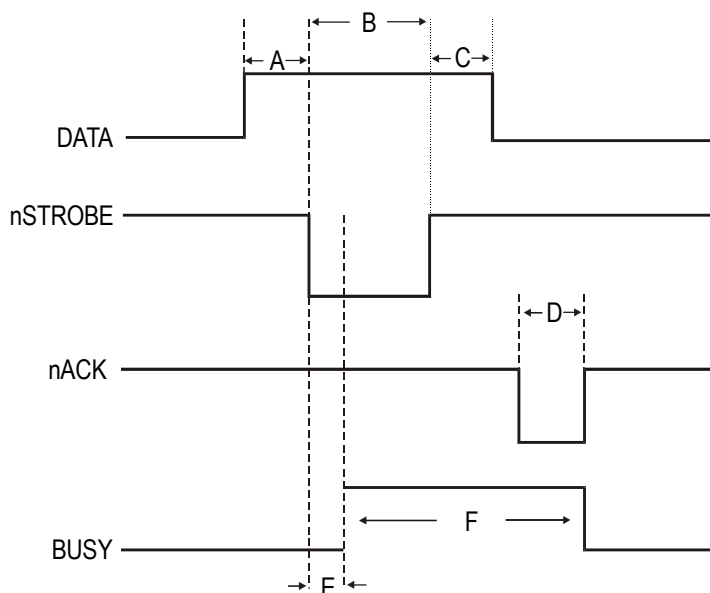
Parallel Interface Pin Assignments

The parallel interface data cable accepts a 36-pin male connector (Amphenol Part No. 554950-1 or equivalent.) The maximum recommended length of cable is 10 feet. Selecting a high quality cable will prevent problems such as improper grounding and/or shielding. Note that the “n” prefix means that a signal is negative-true.



Pin	Compatibility Mode Signal Name	Compatibility Mode Source	Nibble Mode Signal Name
1	NStrobe	Host	
2	Data 1	Host	
3	Data 2	Host	
4	Data 3	Host	
5	Data 4	Host	
6	Data 5	Host	
7	Data 6	Host	
8	Data 7	Host	
9	Data 8	Host	
10	nACK	Printer	PtrClock
11	Busy	Printer	PtrBusy
12	Paper Empty	Printer	AckDatReq
13	Select	Printer	Xflag
14			Host Busy
16	Signal Ground		
17	Chasis Ground		
18	+5V	Printer	Peripheral Logic High
31	nPRIME	Host	
32	nFAULT	Printer	nDataAvail
36			IEEE-1284 Active

Parallel Interface Timing



Legend	Description	Microseconds
A	Data Setup	0 minimum
B	nStrobe width	0.1 minimum
C	Data Hold	0 minimum
D	nAck width	0.68
E	Busy delay	0.2
F	Busy duration	nStrobe width + 0.9 typical

Since the (synchronous) Busy duration is a function of nStrobe, the maximum rate of data exchange depends on the host's nStrobe width. The measured rate is 122 KB/sec for a one-thousand-character burst using a 1.5 microsecond nStrobe.

RS-232 Serial Interface

This interface supports baud rates from 1200 to 38,400. A 38,400 baud rate corresponds to 3840 characters per second assuming a ten-bit character frame. A 1000-lpm printer can render about 2200 characters per second printing resident characters in a high-speed text mode. Under such circumstances, a baud rate slower than 38,400 will not enable the rated speed of the printer. During one-bit-per-dot operation, graphics transfers such as used by ANSI, Proprinter, and Epson emulations, the bytes required to describe a line of print can increase by a factor of five or more.

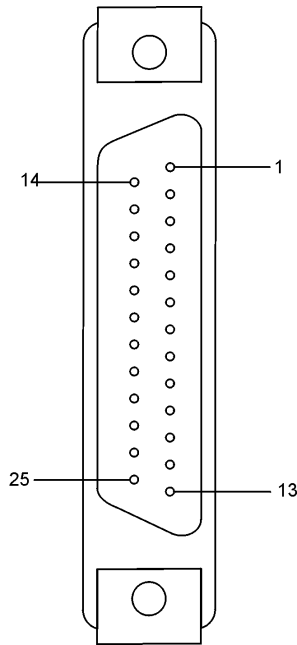
The serial input buffer is 32K bytes. The high trip point is adjustable from the Set Up Menu in 1% increments. The default is 80%. Any filters that have been enabled that are associated with this port represent 16K bytes of additional buffer capacity per filter.

Serial Port Configuration

For data to be exchanged, the printer must be set to match the host in terms of baud rate, character frame, parity, and Ready/Busy protocol. The defaults are 9600 baud, 8 data bits, one stop bit, no parity, and XON/XOFF. These settings may be changed using the Set Up Menu. See Serial Setup on page 74 for instructions to modify these settings.

RS-232 Pin Assignments

The serial data receptacle accepts a 25-pin male, D connector, and #4-40 locking screws.



25-pin Serial Connector

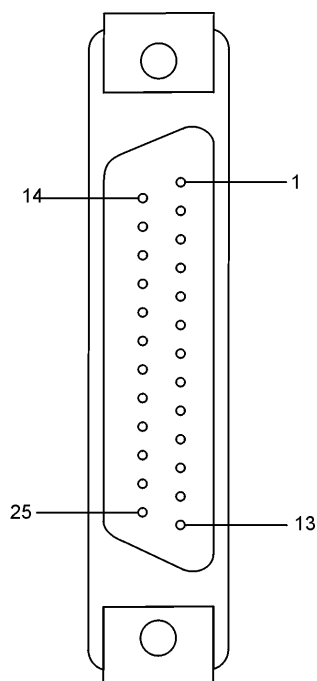
Pin	Circuit	Description	Source
1	AA	Protective ground	
2	BA	Transmitted data (TXD)	Printer
3	BB	Received data (RXD)	Host
4	CA	Request to Send	Printer
5	CB	Clear to Send	Host
6			
7	AB	Signal ground	
8			
9	+12V	+12V, 100ma max.	Printer
10	-12V	-12V, 100ma max.	Printer
11	SCA	Secondary Request to Send	Printer
19			
20	CD	Data Terminal Ready	Printer
21			
22	+5V	+5V, 200ma, max, total	Printer
23			
24			

RS-422 Interface

This interface is a four-wire, balanced-voltage variant of RS-232. In order to use this interface, it must be selected from the Serial Type menu. The character frame, baud rate, and protocol settings are accessible from the same Serial Setup menu as the RS-232. See page 74 for instructions to modify these settings. The Ready/Busy protocol must be busy-by-code, usually XON/XOFF, which is enabled in the default state of the printer.

RS-422 Pin Assignment

The RS-422 interface shares the 25-pin, D connector with the RS-232 interface.



25-pin Serial Connector

Pin	Circuit	Description	Source
1		Frame Ground (Not normally used)	
15	RX-A	Received Data	Host
17	RX-B	Received Data	Host
19	TX-A	Transmitted Data	Printer
25	TX-B	Transmitted Data	Printer

The polarity indicators A and B, are defined by the EIA specification. A is negative with respect to B in the mark (logic 1) state of the device.

Troubleshooting the RS-422

For the RS-422 interface to perform, the interface must be selected from the Serial Type Menu located under the Set Up menu. The baud rate, character frame, and Ready/Busy protocol (usually XON/XOFF) at the printer must match those of the host.

Host	Printer	Printer Pin
TX-A	RX-A	15
TX-B	RX-B	17
RX-A	TX-A	19
RX-B	TX-B	25

Lead Polarities

The polarity indicators, -A and -B, are defined by the EIA specifications. -A is negative with respect to -B in the mark (logic 1) state.

Some vendors designate RS-422 polarities with a plus or minus sign rather than -A and -B without a consensus to their meanings. If polarities are reversed, then (readable) data will not be exchanged; however, no damage will result.

Troubleshooting the RS-422 Interface

Problem	Probable Cause/Recommended Action
Determine the Host's Transmit Policy	The host can be expected to hold a mark state on a quiescent transmitter. Disconnect the outgoing wiring from the host's TX terminals. Temporarily connect a one-hundred-ohm resistor across the TX terminals, and use an oscilloscope to measure the voltage across the resistor. If there is a clean DC level of one to three volts, then the negative transmit terminal is the -A terminal. Using this method to discern the meaning of the host's transmitted polarity markings, then its received - side markings should be the same sense and connect accordingly. The printer should be online and should now be ready to print data from the host.
Host Times Out, or Does Not Transmit	If the host times out when data is sent, then the host is waiting for XON. Verify from the printer's Serial Setup menu that XON/XOFF reflects online/offline (default). Place the printer online. XON will be transmitted. Attempt to send the file again. If the host times out again, change the XON/XOFF protocol to enable Robust XON. This will cause XON to be transmitted in 3 second intervals while the printer is online and the buffer is available. Check the host's receive terminals with an oscilloscope. Begin with a 1V/division, 500 microseconds/division (at 9600 baud). There should be a clean, repetitive XON signals at better than 2V peak-peak. (The specified minimum is 200 millivolts at the receive terminals; the printer supplies close to 5V pk-pk.) If this signal is present, try to transmit the file again. At 9600 baud, the host will transmit about 58K of data per minute. For a 56K file, there will be a minute to look for data on the transmit terminals. Check the host's transmit terminals for data. There should be a 2-6V pk-pk reading. If no data is present, then reverse the leads on the host's receive terminals and check for data again. If there are XON's at the host's receive terminals, if baud rates and character frames match, and both juxtapositions of polarities of the host's receive terminals have been tried, and the host still won't transmit, the problem is with the host.
Host Transmits, but Data	Check the printer's receive terminals (pin 15 to 17) for data. There should be 200 millivolts peak-to-peak minimum. Typically, the amplitude will be closer to two volts and shouldn't exceed six volts. If data is present, but the printer doesn't print or prints garbage, try reversing either the host's transmit leads, or the printer's receive leads.
Verify XON/XOFF	With the speed of the print engine relative to the speed of the serial interface, sometimes the printer correctly prints a quantity of high-speed text, open-loop, without indicating that the hand-shaking is not working properly. Once reception of data at the printer is established, checking the host's processing of XON/XOFF can be checked. Verify that the XON/OFF protocol is set to reflect online/offline (default). Cycle the online/offline while data is being transmitted and verify that the host starts and stops transmitting in response to the key. Using a scope, monitor incoming data using an auto trigger mode.

Printer Emulation Valid Filter Selections

Printer Emulation	Filter					
	QMS	IGP	SCS	IPDS	Hex Print	Hex Pass
ANSI (4800)	X	X	X	X	X	X
ANSI (4410)	X	X			X	X
FX286e	X	X			X	X
Proprinter IIIXL	X	X			X	X
P300/600	X	X			X	X
Dec LG+					X	X
Pseries					X	X
DEC PPL/3					X	X

Note 1: Only one printer emulation can be active.

Note 2: If SCS and IPDS Filter are selected on any port (Expansion 1 or 2), ANSI (4800) printer emulation is automatically selected.

Note 4: QMS and IGP are mutually exclusive.

Note 5: SCS and IPDS are mutually exclusive.

Valid Filter Combinations

	QMS	IGP	SCS	IPDS	Hex Print	Hex Pass
QMS			X		X	X
IGP			X		X	X
SCS	X	X			X	X
IPDS					X	X
Hex Print	X	X	X	X		X
Hex Pass	X	X	X	X	X	

Interface Port and Filter Compatibility

I/F Port	Filter				
	QMS	IGP	SCS	IPDS	Hex Print
RS 232/422 Serial	X	X			X
1283 Parallel	X	X			X
Ethernet 10 Bt/10B2	X	X		(future)	X
Ethernet 10/100 base T	X	X		(future)	X
Token Ring	X	X		(future)	X
IBM TX/CX	X	X	X	X	X
Legacy CENTRONICS	X	X			X
Legacy DPLL	X	X			X
Legacy DPSL	X	X			X

Horizontal/Vertical Tab Id Maximum Slots

Printer Emulation	Maximum Tab Id Slots	
	Horizontal	Vertical
ANSI (4800)	22	12
ANSI (4410)	22	12
FX286e	32	32
Proprinter IIIXL	32	32
P300/600	32	32
Dec LG+	32	67
Pseries	32	32
DEC PPL/3	32	64

APPENDIX I. LCD MENU MAPS

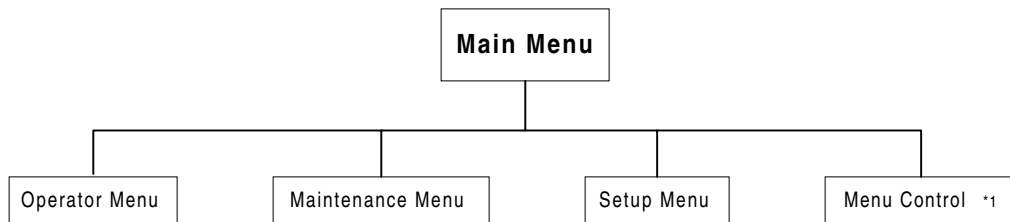
NOTE

The following menu maps reflect the following software:

Standard 44A109042

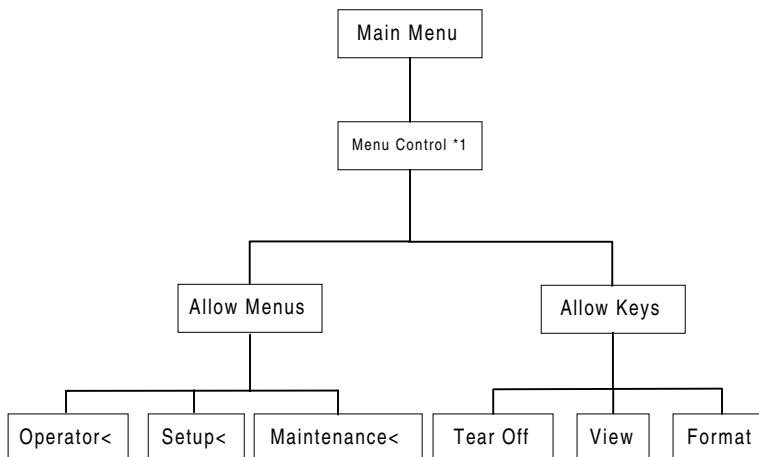
IPDS 44A109037

SCS 44A109036



Note

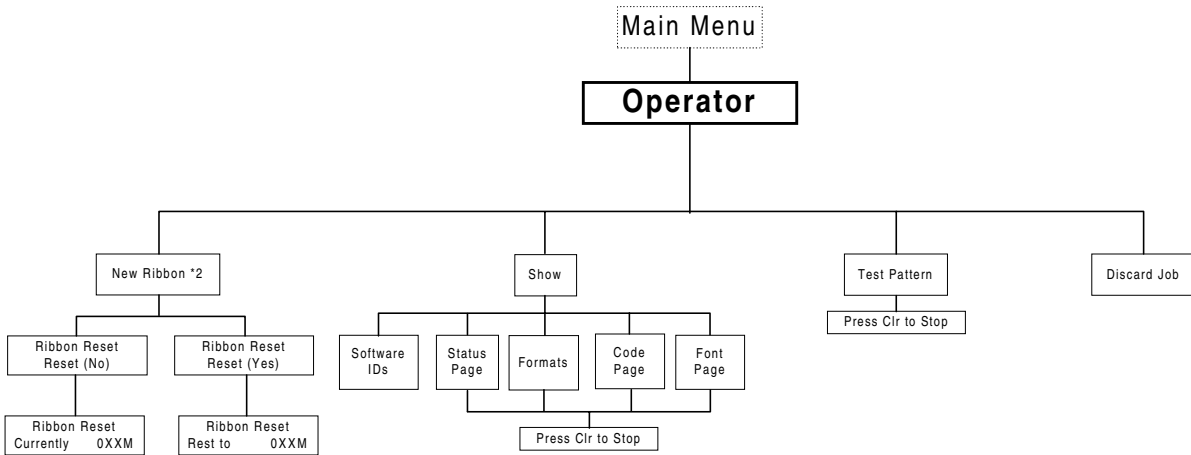
Operator, Maintenance, and Setup menus are expanded on separate pages.



Note

To display this menu, see “Using Menu Control” in Chapter 3 for instructions.

*1 This menu is visible after menu control power-up procedures. See Menu Control in Chapter 2 for details.

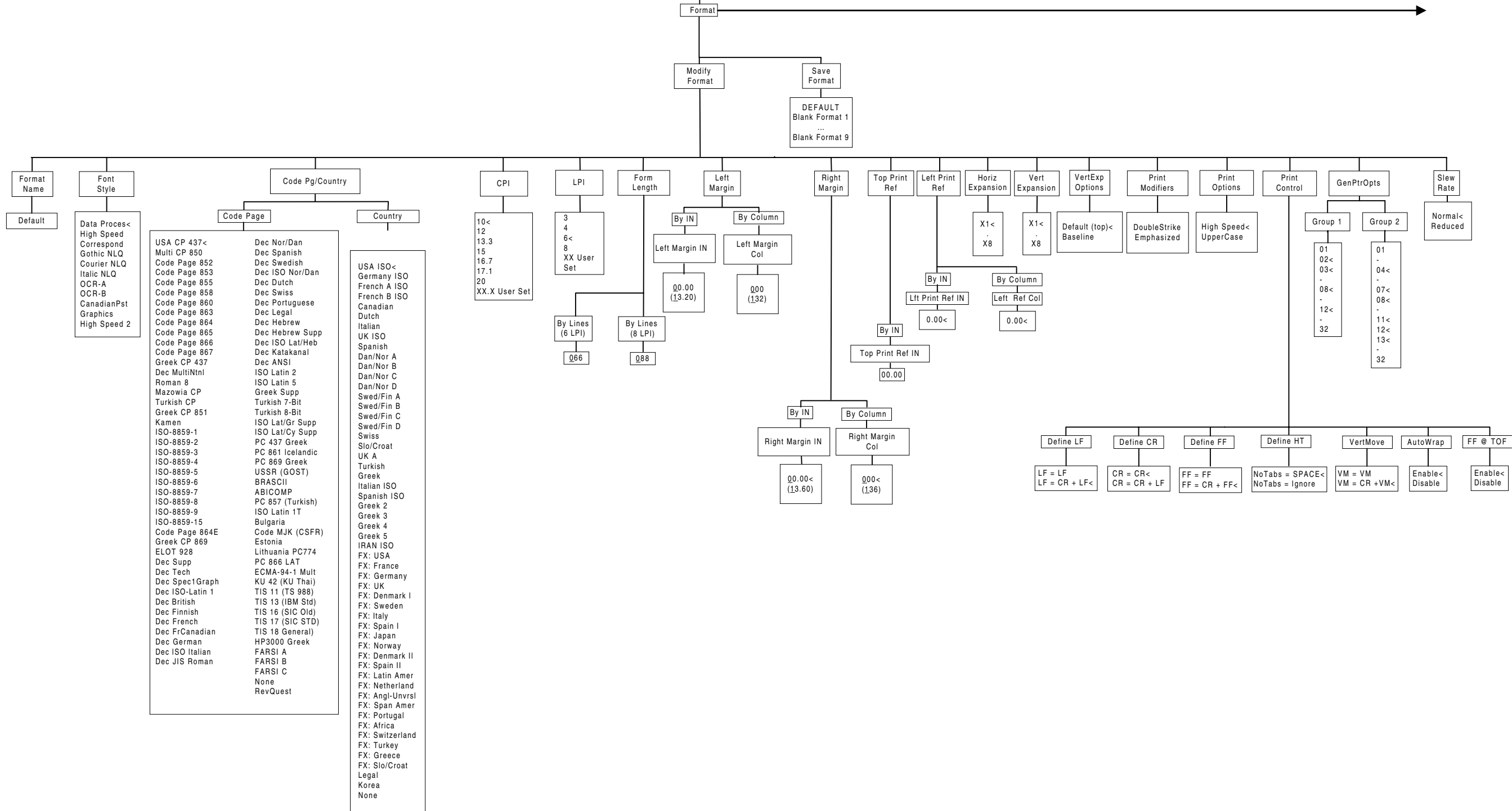


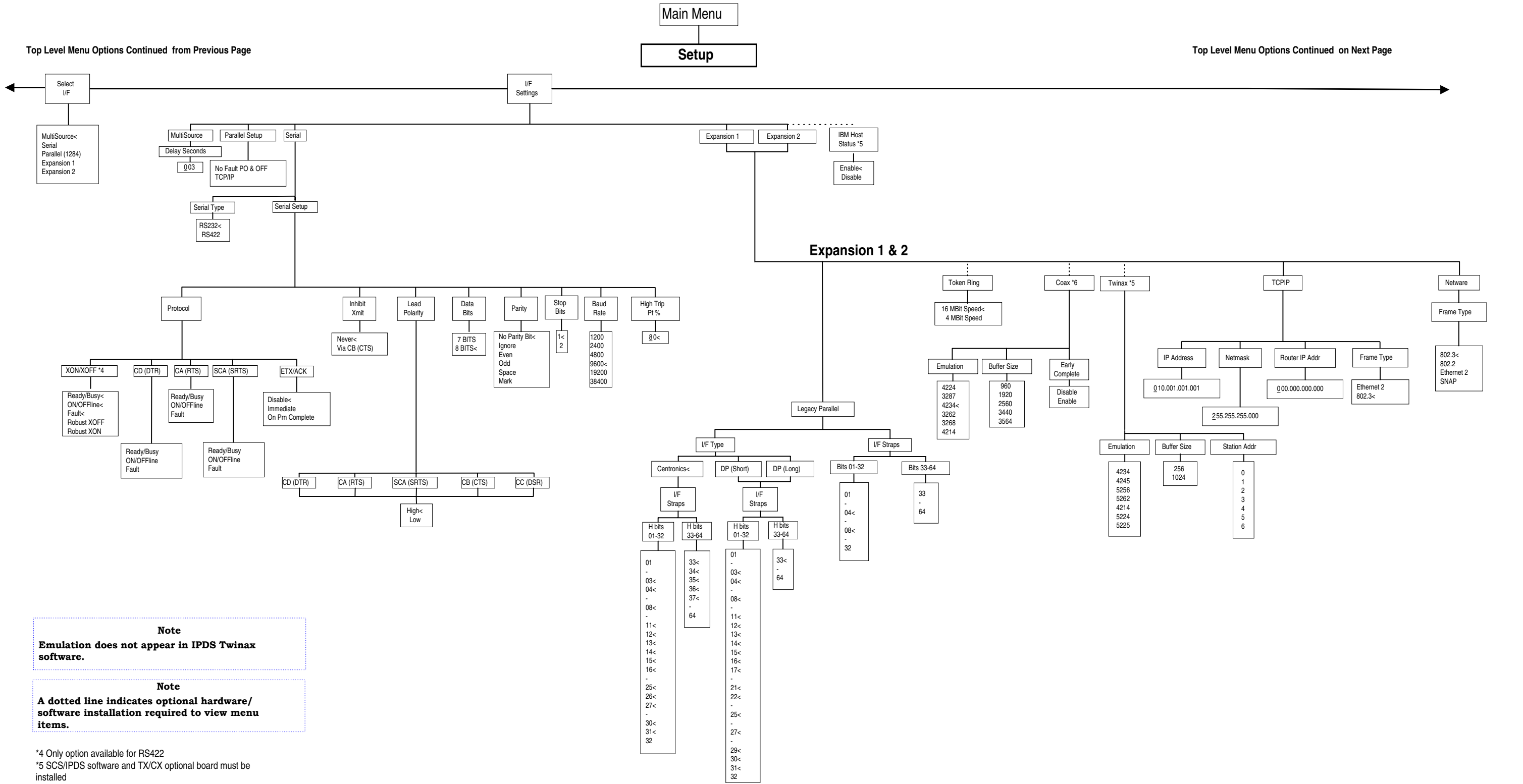
*2 Not active if Ribbon Monitor is disabled

Main Menu

Setup

Top Level Menu Options Continued on Next Page





Note

Emulation does not appear in IPDS Twinax software.

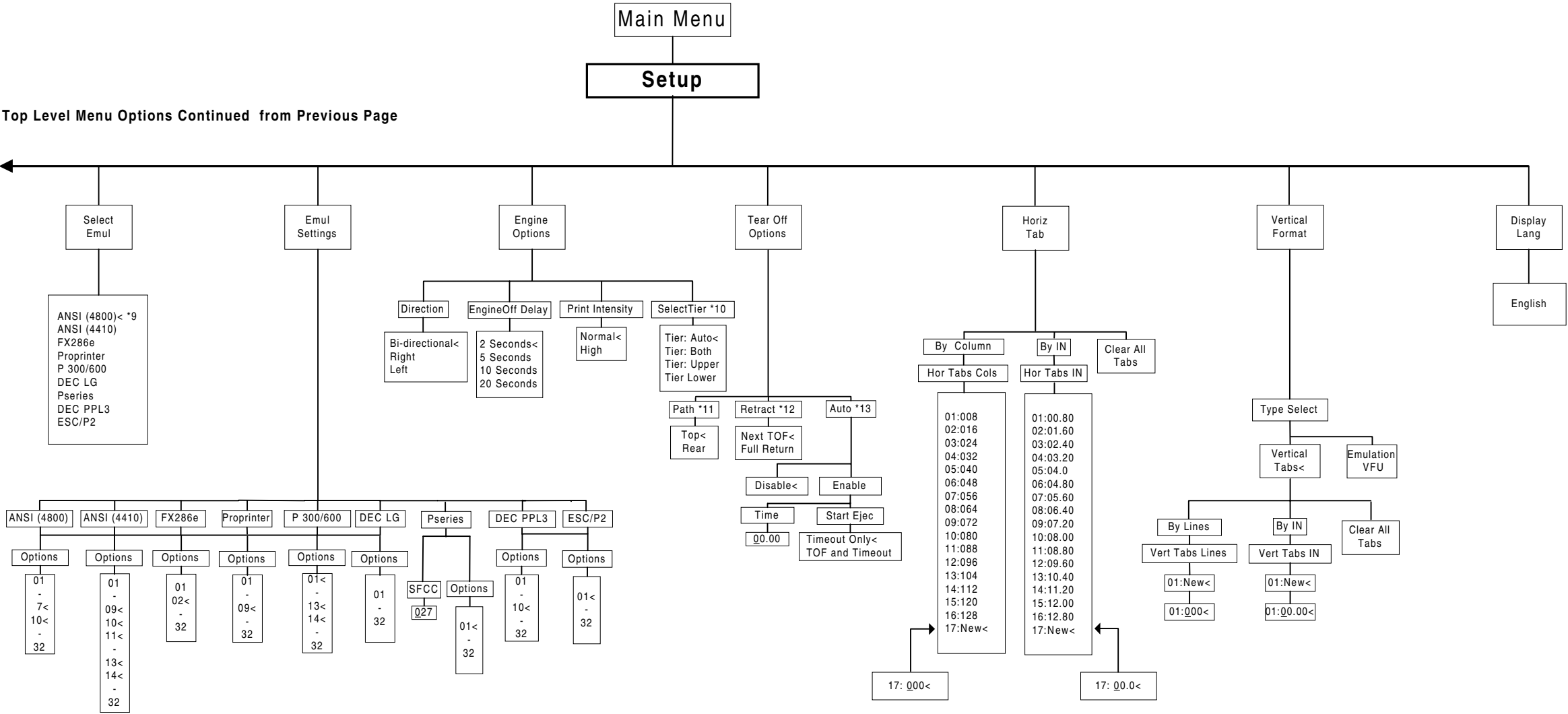
Note

A dotted line indicates optional hardware/software installation required to view menu items.

*4 Only option available for RS422

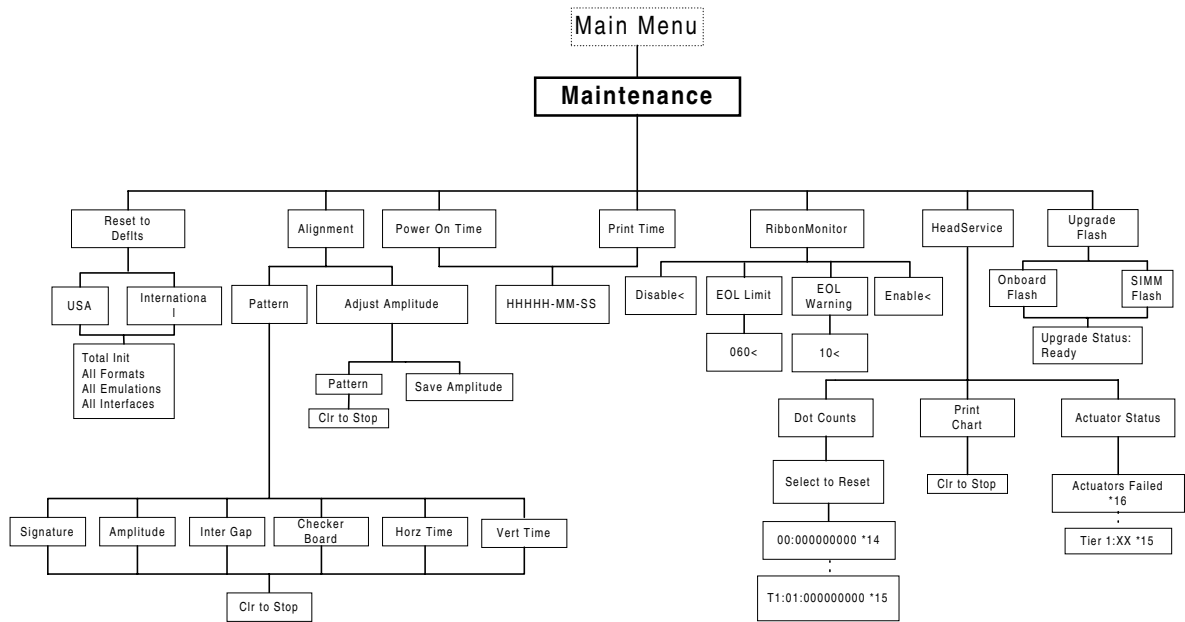
*5 SCS/IPDS software and TX/CX optional board must be installed

*6 Only visible with SCS & IPDS software installed



Note
A dotted line indicates optional hardware/
software installation required to view menu
items.

*9 IPDS & SCS
*10 5180 Model Only
*11 Available in 5050/5100 Pedestal Model Only
*12 Available in 5180/5050/5100 Model
*13 Available and visible in Form Saver Model Only



Note
A dotted line indicates optional hardware/software installation required to view menu items.

*14 Information will reflect the actuator number (1-33) followed by the dot count value for each actuator (1-33).

*15 5180 model only. Information will reflect Tier 1(2) and actuators 1-33(34-66)

*16 Either "None" or a # will be displayed to reflect which actuator has failed

INDEX

2

25-pin RS-232C serial interface connector 12

3

36-pin CENTRONICS parallel interface connector
..... 12

A

Active Format 31
Actuator Status 145
AdjustAmplitude 141
Alignment 139
ANSI (4410) 125
ANSI (4410) Emulation Options Table 184
ANSI (4800) 125
ANSI (4800) Emulation Options Table 184
ANSI 4410 1
ANSI 4800 1
Auto Funct 122
auto-switching power supply 11
AutoWrap 67

B

Bad Actuator 155.
 See Mechanical Problems, Hard Faults
Bad Wire Driver *See Hard Faults*
Basic Pushbutton Use 16
Baud Rate 80
BC Density 92, 98
Beeper 14
Buffer Overflow *See Serial Interface Errors*

C

CA(RTS) 76
Case 117
CD(DTR) 75
Centronics 83
Change Ribbon 151
See Soft Faults
Chapter 4. Using the Operator Menu 41
Character Set 53
CharSet/Country 52
Clip Text 95
Coax 85
Coax Compatibility 116
Code Page 106
Code Pg Override 106
Code V 99
column indicator label 23
Comm 123
Connecting the Interface Cable 12
Connecting the Power Cord 11

Control Chars 93, 98
Control Panel Initialization 39
Country 53
Courier NLQ 1
CPI 54, 107
CPI Override 108
CR at MPP+1 119

D

Data Bits 78
Data Entry 17
DCF Term 115
DCF1 114
DCF2 115
DEC LG 127
DEC LG and PPL3 1
DEC LG Plus Emulation Options Table 187
DEC PPL3 128
DEC PPL3 Emulation Options Table 187
Default OCR-B 94
Define CR 65
Define FF 66
Define HT 66
Define LF 65
Delete Logos 94
Description of the Control Panel 13
Direction 129
Discard Job 49
Display 15
Display Lan 136
Dot Counts 144
DP(Long) 84
DP(Short) 83
Draft = High Speed 106
Driver Circuit 155, 157
 See Mechanical Problems, Hard Faults

E

Electrical Problems 156
Emulation 124, 125
Emulation Option descriptions 184
Emulation VFU 135
Engine Options 129
EngineOff Delay 129
Epson FX286e 1
Epson FX286e Emulation Options Table 186
ETX/ACK 77
Euro information 68
Euro Information 180
Expansion1/Expansion2 82

F

paper 169
features of this printer 1

FF @ TOF.....	67
FF Before LC.....	117
FF Data.....	120
FF EndBuff.....	121
FF Pos.....	121
Filter.....	90, 92
Filter Combinations.....	195
Font Style.....	52
Form Length.....	32, 55
Format.....	50
Format Name.....	51
Framing Error.....	<i>See Serial Interface Errors</i>
Free Format.....	99
FX286E.....	126

G

General Printer Options Definitions.....	179
GENPTROPTS.....	68
Gothic NLQ.....	1
Graphics.....	1

H

Hard Faults.....	154
HeadService.....	144
Hex 1.....	113
Hex 2.....	113
Hex Print.....	111
Hex Term.....	114
High Speed.....	1
High Trip Pt%.....	81
Horiz Expansion.....	60
Horiz Tab.....	133
Horizontal Positioning of the Paper.....	23
Horizontal/Vertical Tab Id Maximum Slots.....	196

I

I/F Hardware Strap Table.....	182
I/F Software Straps Table.....	183
I/F Straps.....	84
IBM Format.....	105
IBM Proprinter III XL.....	1
Ignore Char.....	96, 103
Ignore Chr mode.....	96, 102
Ignore Mode.....	100
IGP.....	92
IGP Terminator.....	93
Image Logic Fail.....	155
<i>See Hard Faults</i>	
Inhibit Xmit.....	77
Initializing the Printer.....	38, 148
Installing the Paper Handling System.....	18
Interface.....	70
Interface Port and Filter Compatibility.....	196
Interface Settings.....	70
Interv Req.....	118
Invalid VFU Seq.....	151

See Soft Faults

IPDS.....	103
IPDS BC Density.....	104
IPDS BC Stagger.....	103
IPDS Dens Ovr.....	105
IPDS GR Density.....	104
IPDS Image Density.....	104
IPDS Text.....	105
Irq Bsy TO.....	119
Irq Err TO.....	118
Italic NLQ.....	1

L

Language.....	93, 99
LAST LF/FF.....	122
Lead Polarity.....	78
LEFT CENTER FAN.....	155
<i>See Hard Faults</i>	
LEFT FAN.....	155
<i>See Hard Faults</i>	
Left Margin.....	56
Left Print Ref.....	59
Legacy Parallel.....	82
Legacy parallel Hardware strap definitions.....	181
Legacy Parallel Software Strap Definitions.....	183
LOAD position.....	19
Loading Paper.....	19
Loading---- Please Wait	
<i>See Self-Test Error Messages</i>	
LOC Copy FF.....	117
Local Auto View Feature.....	36
Low Paper.....	33
Low Paper Printing.....	33
Low Power	155
<i>See Hard Faults</i>	
LPI.....	54, 107
LPI Grid.....	101
LPI Override.....	107

M

Magnum Spaces.....	102
Main Menu.....	30
Maintenance LCD Menu Map.....	202
Maintenance Menu.....	30
Mechanical Problems.....	157
Menu Control.....	31
Miscellaneous Non-Fault Messages.....	153
Modify Format.....	51
MPL.....	109
MPL Override.....	110
MPP.....	108
multipart forms.....	169
MultiSource.....	71

N

Netware.....	88
--------------	----

New Ribbon	41
NL at MPP+1	120
No Font	155
<i>See Hard Faults</i>	
No Ribbon	<i>See Soft Faults</i>
Null Sup	121
NVRAM Reinit	155
<i>See Hard Faults</i>	
O	
OCR-A	1
OCR-B	1
Operation of the Control Panel	16
Operator Cleaning Procedures	147
Operator LCD Menu Map	198
Operator Menu	30
Operator Troubleshooting	148
Options available	12
Organization of this manual	2
Override All	111
Override MPP	109
Override Text	110
Oversize	1
P	
P 300/600	1, 127
Paper Almost Out	151
<i>See Soft Faults</i>	
Paper Jam	<i>See Soft Faults</i>
Paper Out	<i>See Soft Faults</i>
paper rack	18
paper shelf	18
Paper Tear-Off Feature	35
Paper Tension Adjustment	27
paper tension adjustment lever	20
paper width	169
Parallel Setup	72
Parity	79
Parity Error	<i>See Serial Interface Errors</i>
Patterns	139
PN Terminator	101
Power on Time	142
Power-On Sequence	27
Print Chart	145
Print Control	65
print gap wheel	19
Print Intensity	130
Print Modifiers	63
Print Options	64
Print Pattern	49
Print Time	142
Printer Emulation vs Filter	195
Printer Interfaces	188
IEEE 1284 Bi-directional Parallel Port	188
Multisource Timeout	188
Parallel and Serial Interfaces	188

Parallel Interface Pin Assignments	189
Parallel Interface Timing	190
RS-232 Pin Assignments	191
RS-232 Serial Interface	190
RS-422 Interface	192
RS-422 Pin Assignments	192
Serial Port Configuration	191
Troubleshooting the RS-422	193
Printer operational Modes	29
Printronix P300/600 Emulation Options Table	187
Printronix Pseries Emulation Options Table	187
ProPrinter	126
Proprietary III XL Emulation Options Table	185
Protocol	74
Pseries	1, 128
Pushbuttons	15
PY Terminator	100

Q

QMS	98
Quiet Mode	94

R

Ready	153
<i>See Misc. Non-Fault Messages</i>	
REAR FAN	155
<i>See Hard Faults</i>	
Recommended Paper Weights	169
Repacking	168
Replacement Procedure	160
Replenishing Paper Supply	34
Reset to Deflts	138
Resetting Print Head Counters	162
Retract	133
Retracting	36
Ribbon Jam	
<i>See Soft Faults, Paper Tear-Off Feature</i>	
Ribbon Weld	<i>See Soft Faults</i>
Ribbon Weld Pass	<i>See Soft Faults</i>
RibbonMonitor	143
RIGHT CENTER FAN	155
<i>See Hard Faults</i>	
RIGHT FAN	155
<i>See Hard Faults</i>	
Right Margin	57

S

Sample Character Set	47
Sample Font Page	47
Sample Form Page	45
Save Format	69
SCA(SRTS)	76
SCS Text	110
<i>See Low Paper</i>	
<i>See Low Paperr</i>	
Self Test	<i>See Self-Test Error Messages</i>

Self-Test Error Messages	158
Serial	73
Serial interface Errors	159
Serial Setup	74
Serial Type	73
Service Time	151
<i>See</i> Soft Faults	
Setting the Print Gap	26
Setting top of form	34
Setting up a FormAT	31
Setting up an Active Format	32
Setup LCD Menu Map - (1 of 3)	199
Setup LCD Menu Map (2 of 3)	200
Setup LCD Menu Map (3 of 3)	201
Setup Menu	30
Show	41
Shuttle Error	158
<i>See</i> Self-Test Error Messages	
Shuttle Overload	155
<i>See</i> Hard Faults	
Slashed Zero	95, 100
Slew Rate	68
Soft Faults	150
Software IDs	42
stacking aid	18
Standby	153
<i>See</i> Misc. Non-Fault Messages	
Status Display	29
Status Page	42
Stop Bits	80
Striker Bar Open	<i>See</i> Soft Faults
Strikr Bar Open	<i>See</i> Paper Tear-Off Feature
Supp CCode	122
T	
Table 3 Group 1 Options	179
Table 4 Group 2 Options	180
Table 7-1 Soft Fault Displays	151
Table 7-2 Miscellaneous Non-Fault Messages ..	153
Table 7-3 Hard Fault Displays	155
TCP/IP	87
Tearoff	153
<i>See</i> Misc. Non-Fault Messages	
TearOff	132
Test Pattern Printing	27

The horizontal paper adjustment knob	23
The Interlock circuit	37
Token Ring	85
Top Print Ref	32, 58
TTMI checksum	158
<i>See</i> Self-Test Error Messages	
TTMI error	158
<i>See</i> Self-Test Error Messages	
TTMI noresp	158
<i>See</i> Self-Test Error Messages	
Twinax	86
U	
UART Overflow	159
Unpacking (5180 52 DbA Model)	163
Upgrade Flash	146
Using the Keypad to Initialize	
How to Initialize the Printer	38
Using the menu control Menu	40
V	
VCS	123
Version	102
Vert Expansion	61
VertExp Options	62
Vertical DPI	95, 101
Vertical Format	134
Vertical Tabs	135
VertMove	66
VFU Fmt Inactive	155
<i>See</i> Hard Faults	
VFU Missing TOF	<i>See</i> Soft Faults
VFU PI Lead	151
<i>See</i> Soft Faults	
VFU Tbl Too Long	151
<i>See</i> Soft Faults	
Viewing	36
W	
When to Initialize	38
wickets	18
X	
XON/XOFF	75